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U.S. Department of the Interior
Bureau of Land Management

Vale District Office
100 Oregon Street
Vale, Oregon 97918

October 1998

Draft
Southeast Oregon *Resource Management Plan / Environmental Impact Statement*

Volume 2 of 2

99-023254/NF

C

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM/OR/WA/EA-98/043+1792

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U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Draft
Southeastern Oregon Resource Management Plan/ Environmental Impact Statement

Prepared by
Vale and Burns District Offices
September 1998

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United States Department of the Interior
BUREAU OF LAND MANAGEMENT

OCT 30 1998

Vale District Office
100 Oregon Street
Vale, Oregon 97918

Burns District Office
HC 74-12533 Hwy 20 West
Hines, Oregon 97738

In reply refer to:

Dear Public Land User:

You are cordially invited to assist the Bureau of Land Management (BLM) in a planning process that is important to you and your interests.

We ask for your participation in evaluating this Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS). This planning effort has been undertaken to provide the BLM's Vale and Burns Districts with a comprehensive framework for managing the public land described in this document. The purpose is to ensure public land use is planned for and managed in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976, and is consistent with the principles of multiple-use and sustained yield.

The planning area encompassed by this document covers approximately 6.3 million acres of BLM-administered land spread over a total of approximately 8.5 million acres in southeastern Oregon. The planning area spans parts of the Vale and Burns Districts including the Jordan and Malheur Resource Areas (Vale District) located in Malheur County, and the Andrews Resource Area (Burns District) located in Harney County.

Five management alternatives have been identified, described, and analyzed in this draft plan, each with a different emphasis and each addressing the planning issues. Public comment played an important role in shaping both the issues and the alternatives. Before the preferred alternative was developed, suggestions received from private individuals, interest groups, and other governmental entities were thoroughly considered. These suggestions were utilized to strike a reasonable balance between the expressed desires of the public to emphasize the production of various commodity resources; the desire to maintain the current flow of resources from public land; and the desire to protect, restore and enhance resource values.

The end product of this planning process will be a RMP which will integrate all resources, and their subsequent uses, into a balanced approach to multiple-use management of the Jordan, Malheur, and Andrews Resource Areas for the next 20 years. Your participation is essential to help guide the future management of public land.

We would appreciate you reviewing this document and providing us with your written comments by March 1, 1999. Comments are most useful when they do one or more of the following: 1) cite errors in the analysis; 2) provide new information that would have a bearing on the analysis; 3) request clarification; and 4) cite misinformation that may have been used and could affect the outcome of the analysis. If you need assistance, please contact Gary Cooper, Planning Team Leader in the Vale District; or Glenn Patterson, Planning Team Leader in the Burns District; at any time during the 120-day comment period.

Public information meetings will be scheduled and announced at a later date.

Thank you for your interest in the management of public land.

Sincerely,

Edwin J. Singleton
Edwin J. Singleton
Vale District Manager

James Kenna
Burns District Manager

Draft
Southeastern Oregon
Resource Management Plan
Environmental Impact Statement

October 1998 • Volume 2 (of 2)

U.S. Department of the Interior • Bureau of Land Management
Vale and Burns Districts

DRAFT SOUTHEASTERN OREGON
RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

1. Responsible Agency: United States Department of the Interior, Bureau of Land Management

2. Draft (X)   Final ( )

3. Administrative Action (X)   Legislative Action ( )

4. Abstract: The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) has identified five alternatives for managing 6.3 million acres of public land in southeastern Oregon. Input provided by the public during the scoping process helped develop the five alternatives, which are described and analyzed in the draft plan. Alternative A emphasizes commodity production or extraction. Alternative B is a continuation of current management and is the no action alternative. Alternative C, the agency preferred alternative, provides a balance with a high level of natural resource protection and improvement in ecological conditions while allowing commodity production. Alternative D emphasizes resource values and the functioning of natural systems. Alternative E would minimize human intervention in the ecosystem, and eliminate commodity production.

Major RMP issues include rangeland, woodland and riparian vegetation management, energy and mineral resources, designation and management of Special Management Areas, fire management, recreation management, fish, wildlife, botany and Special Status species, and land tenure.

The draft document includes consideration of 60 existing and nominated areas for designation as Areas of Critical Environmental Concern. Also addressed is suitability of wild, scenic, and recreational designations on 289 miles of stream segments determined to be eligible for such designations under the Wild and Scenic Rivers Act.

This draft document establishes objectives and criteria for land management to be used within the concept of the adaptive management process. Adaptive management is the continuing process of action-based planning, monitoring, evaluating and adjusting management to improve achievement of goals and objectives. Using this adaptive approach calls for applying the latest information and professional judgment to develop activity plans that will most likely meet objectives and desired future conditions. New information will be evaluated and decisions made whether or not to make adjustments or changes as experience is gained from implementing activity plans. The adaptive management approach will enable resource managers to determine how well management actions meet their objectives and what steps are needed to modify activities to successfully obtain the objectives of this plan.

5. Date comments must be received: March 1, 1999

6. Date Draft SEORMP/EIS made available to EPA and public: October 30, 1998

7. For further information contact:

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Abbreviations and Acronyms

ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMR	Appropriate Management Response
APHIS	Agricultural Plant and Animal Health Inspection Service
ARA	Andrews Resource Area
ATV	All-Terrain Vehicle
AUM	Animal Unit Month
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
BOR	Bureau of Reclamation
BPA	Bonneville Power Administration
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DLCD	Department of Land Conservation and Development
DOE	Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
DRFC	Desired Range of Future Conditions
EA	Environmental Assessment
EIS	Environmental Impact Statement
E/EIS	Eastside Environmental Impact Statement
ER	Entrenchment Ratio
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ERMA	Extensive Recreation Management Area
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act
FMAP	Fire Management Activity Plan
FWFMP	Federal Wildland Fire Management Policy
HA	Herd Area
HMA	Herd Management Area
HMP	Habitat Management Plan
HUC	Hydrologic Unit Code
ICBEMP	Interior Columbia Basin Ecosystem Management Project
IMP	Interim Management Policy
JRA	Jordan Resource Area
KGRA	Known Geothermic Resource Area
LCDC	Land Conservation and Development Commission
MFP	Management Framework Plan
MOU	Memorandum of Understanding
MRA	Malheur Resource Area
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NL	No Leasing
NPS	National Park Service
NPSP	Nonpoint Source Pollution
NSO	No Surface Occupancy
NRCS	Natural Resources Conservation Service
NWSRS	National Wild and Scenic River System
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
ODSL	Oregon Division of State Lands
OHV	Off-Highway Vehicle
ONA	Outstanding Natural Area
ONHP	Oregon Natural Heritage Program
ORS	Oregon Revised Statute
ORV	Outstandingly Remarkable Value
OWS	Occupancy With Stipulations
PFC	Proper Functioning Condition
PILT	Payments in Lieu of Taxes
PL	Public Law
PNC	Potential Natural Community
PP&L	Pacific Power and Light
PRIA	Public Rangelands Improvement Act
PUC	Public Utilities Commission
RCA	Riparian Conservation Area
RMO	Riparian Management Objective
RMP	Resource Management Plan
RNA	Research Natural Area
ROS	Recreation Opportunity Spectrum
RPS	Rangeland Program Summary
R&PP	Recreation and Public Purpose
SCORP	Oregon Statewide Comprehensive Outdoor Recreation Plan
SEORMP	Southeastern Oregon Resource Management Plan
SHPO	State Historic Preservation Office
SMA	Special Management Area
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
TMDL	Total Maximum Daily Load
TNR	Temporary Nonrenewable Grazing
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WFSA	Wildland Fire Situation Analysis
WSA	Wilderness Study Area
WSR	Wild and Scenic River
WSRA	Wild and Scenic River Act
WSRS	Wild and Scenic River System
WQMP	Water Quality Management Plan

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Draft Southeastern Oregon Resource Management Plan
Alphabetical Listing of Map Packet Contents

Map Number	Map Title	Map Paper Size	Reverse Map
ACEC-1A	Andrews Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1A
ACEC-1J	Jordan Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1J
ACEC-1M	Malheur Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1M
ACEC-2A	Andrews Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2A
ACEC-2J	Jordan Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2J
ACEC-2M	Malheur Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2M
FIRE-1A	Andrews Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1A
FIRE-1J	Jordan Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1J
FIRE-1M	Malheur Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1M
FIRE-2	Appropriate Management Response Categories	25" x 31"	REC-2
FORS-1	Forestry / Juniper Woodlands	11" x 17"	SS-1
FORS-2M	Forest Lands in Malheur Resource Area	8.5"x 11"	None
GEN-2	Land Status	25" x 31"	HYDR-1
HYDR-1	Sub-basins and Precipitation	25" x 31"	GEN-2
LAND-1	Preferred Alternative Right of Way Avoidance Areas, Critical Access Needs and Transportation System	25" x 31"	RELI-1
LAND-2A	Andrews Resource Area Land Tenure Zones	11" x 17"	ACEC-2A
LAND-2J	Jordan Resource Area Land Tenure Zones	11" x 17"	ACEC-2J
LAND-2M	Malheur Resource Area Land Tenure Zones	11" x 17"	ACEC-2M
LVST-1A	Andrews Resource Area Livestock Grazing Allotments	11" x 17	VEGE-1A
LVST-1J	Jordan Resource Area Livestock Grazing Allotments	11" x 17"	VEGE-1J
LVST-1M	Malheur Resource Area Livestock Grazing Allotments	11" x 17"	VEGE-1M
MIN-1	Oil & Gas and Sodium Mineral Resource Potential	11" x 17"	MIN-2
MIN-2	Geothermal Resource Potential & Deep Exploration Wells	11" x 17"	MIN-1
MIN-3	Disseminated Locatable Minerals Potential (Hot Springs and Epithermal Gold and Mercury; Uranium; Porphyry Deposits)	11" x 17"	MIN-4

Map Number	Map Title	Map Paper Size	Reverse Map
MIN-4	Other Locatable Mineral Resources	11" x 17"	MIN-3
MIN-5	Saleable Minerals	11" x 17"	MIN-6
MIN-6	Alternative C Mineral Leasing	11" x 17"	MIN-5
OHV-1	Off Highway Vehicle Areas - Alternative A	25" x 31"	OHV-2
OHV-2	Off Highway Vehicle Areas - Alternative B	11" x 17"	OHV-1
OHV-3	Off Highway Vehicle Areas - Alternative C (Preferred Alternative)	25" x 31"	None
OHV-4	Off Highway Vehicle Areas - Alternative D	25" x 31"	OHV-5
OHV-5	Off Highway Vehicle Areas - Alternative E	25" x 31"	OHV-4
REC-1A	Andrews Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1A
REC-1J	Jordan Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1J
REC-1M	Malheur Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1M
REC-2	Special Recreation Management Areas, Recreation Sites and Trails, Interpretive Sites, Wagon Roads and Trails, and Historic Districts	11" x 17"	FIRE-2
RELI-1	Relief Map	25" x 31"	LAND-1
SS-1	Special Status Species Plants and Noxious Weeds	11" x 17"	FORS-1
SS-2	Catlow Fish	8.5"x 11"	WSR-2
VEGE-1A	Andrews General Vegetation	11" x 17"	LVST-1A
VEGE-1J	Jordan General Vegetation	11" x 17"	LVST-1J
VEGE-1M	Malheur General Vegetation	11" x 17"	LVST-1M
VRM-1	Visual Resource Management (Alternative C, Preferred)	11" x 17"	WLDF-1
WLDF-1	Mule Deer, Pronghorn, and Elk Winter Ranges	11" x 17"	VRM-1
WLDF-2	Sage Grouse Leks, Raptor Concentration Areas, and Bighorn Sheep Habitat	11" x 17"	WLHS-1
WLHS-1	Active Wild Horse Management Areas	11" x 17"	WLDF-2
WSA-1	Wilderness Study Areas	11" x 17"	WSA Names & Numbers
WSR-1A	Andrews Resource Area Existing Designated and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1A
WSR-1J	Jordan Resource Area Existing Designated and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1J
WSR-1M	Malheur Resource Area Existing Designated and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1M
WSR-2	Donner und Blitzen River Plan Revision	8.5" x 11"	SS-2

Appendix A
Scoping Comments

Introduction

During public scoping for this plan, written comments were received from 22 individuals and 15 agencies or groups. Oral comments were received at a series of public meetings held in the Vale and Burns Districts, and in Bend, Portland, and Boise. Many comments from the varied individuals and groups gave similar information or proposed similar ideas. Similar ideas and information were consolidated into a single comment.

Riparian

1) Minimize fencing in riparian zones; use riders to keep cattle out of sensitive areas.

2) Management of riparian areas should continue in order to enhance aquatic habitats for threatened, endangered, and sensitive species.

3) Need more rock check dams in smaller streams to stop erosion and enhance fish and wildlife habitat.

4) Riparian areas should be restored as quickly as possible.

5) Severe restrictions, changes in grazing practices, or elimination of grazing in riparian areas is appropriate; if grazing occurs, it is not preferable in the growing season.

6) How will riparian areas be managed to prevent the future listing of sensitive native fish stocks (i.e., redband trout, bull trout, sculpin, chub, etc.)?

7) Develop riparian areas along Jackass Creek, i.e., water seep on Davies acreage.

8) Monitor streams and ground water for water quality and quantity.

9) Use improvement of water quality as a criteria for developing management strategies.

10) Consider locating livestock exclusion areas in riparian habitat.

Recreation

1) Develop one or two additional primitive campgrounds (except do need to include outhouses).

2) Do not improve existing roads or river access, beyond present conditions; provide only minimum maintenance to accommodate 4-wheel drive access only.

3) No new roads, trails, or river access points (on the Owyhee) should be constructed.

4) Do not allow cross-country vehicle travel. Restrict off-road vehicles to existing roads only.

5) Consider impacts of off-highway vehicle use and recreation facilities on the proper functioning of ecosystems.

6) Identify areas for motorized versus nonmotorized based recreation.

7) Do not close existing roads and 4-wheel drive trails; the land needs to be open to everyone, not just a few.

8) Limit horse or packstring use for recreation.

9) Manage for recreation because it provides a high return to local communities; the value of places like Steens Mountain, Jordan Craters, and the Owyhee and Malheur Rivers for tourism is much greater than for cattle or timber.

10) Do not designate any more Wild and Scenic Rivers (WSRs).

11) Keep recreation at its present levels; there are plenty of opportunities for people now.

12) Do not promote tourism by people from outside the region.

13) Consult with the National Park Service concerning any rivers identified as eligible for the National Wild and Scenic Rivers System.

14) Local governments should decide if recreation access should be improved and if more campgrounds should be developed, not BLM.

15) Maximum protection and enhancement of natural resources should guide the management of the Steens Mountain Recreation Lands.

16) Cattle should not be allowed to graze on the Steens Mountain Recreation Area.

17) The current Federal government policy of allowing commodity-oriented uses on Steens Mountain is out of synch with the general public's desires for high-quality recreation.

18) Do not develop any more campgrounds on Steens Mountain; existing facilities are adequate for the size of the area and BLM cannot afford to hire additional maintenance personnel.

19) Hiking trails in Little Blitzen and Big Indian Gorges need to be maintained and the brush cleared away.

20) The Loop Road on the Rooster Comb needs to be widened and guard rails installed to improve public safety.

21) Consider multiple-use of the Birch Creek property and other similar assets by schools, 4-H clubs, Boy Scouts, renting cabins to the general public, etc.

22) Analyze whether limits should be set on recreational use at high use areas to reduce impacts.

23) Consider fees for all users of public land.

24) How will Hole-in-the-Ground and Birch Creek Ranches be managed and what uses will be made?

25) Control access off the Steens Loop Road at upper elevations to control recreation use.

26) Provide more rest room facilities at high-volume camping areas such as Anderson Crossing and Frog Springs.

27) Address trespass onto private property, especially backpackers, and address the issues of locked gates, campfires, garbage, impact on livestock distribution (cows leave when people come in on foot).

Forestry and Woodlands

1) Logging should be kept to a minimum; no more clearcuts.

2) The policy of ripping out established juniper trees to allow forbs to grow is not understood.

3) Need to better understand the cumulative impacts of eradicating juniper on the total environment and the significance to the juniper forest ecosystem.

4) Need to analyze the ecological impacts of reducing the number of old, mature juniper trees on total biological diversity.

5) Need to address how removal of some juniper stands will affect migratory neotropical birds and other wildlife.

6) Need to determine the impacts of controlling juniper trees on sensitive bat species.

7) Maintain timber harvest at sustainable levels.

Special Management Areas

1) Analyze wetland areas to determine if they qualify to be designated as Special Management Areas (SMAs).

2) Areas containing Special Status species should be considered for designation as SMAs.

3) Consider the South Fork of Malheur River below Riverside as an SMA or a Wilderness Study Area (WSA).

4) WSAs have been in effect a long time, stopping the construction of management facilities; the Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) should provide guidelines to allow management of the land for the benefit of users and wildlife.

5) WSAs should be managed to protect wilderness characteristics.

6) Many WSAs are not considered suitable since they have roads and evidence of human use; they should be managed as back country areas; they can be more effectively managed by allowing continued vehicle use; wilderness is only used by people with horses or a lot of leisure time for backpacking.

7) Concern was expressed over the gradual destruction of WSA and WSR values as a result of the construction of "improvements"; the "cause" of the impacts should be eliminated instead.

8) Consider private land inholdings in WSAs and other SMAs and place priority for acquisition by the Federal government, including Steens Mountain, the Middle Fork of the Owyhee, and the McClain Cabin site in the Pueblo Mountains WSA.

9) Consider additional areas for Areas of Critical Environmental Concern (ACECs), including the High Steens, Kiger Gorge, Alvord Desert, Jordan Craters, (including land in Idaho, and Wildhorse Canyon).

10) Develop additional ACECs to protect historic plant harvest areas and cultural areas for Indian tribes.

11) Consider Steens Mountain and entire Owyhee drainage for recommendation to Congress as possible National Conservation Areas (NCAs).

12) Consider the impact of designating SMAs on local economies.

13) Limit the number of SMAs.

Livestock

1) Promote grazing management that emphasizes natural values over livestock production; severely restrict livestock access to river canyons and other riparian areas.

2) Grazing during winter months would minimize damage to endangered species; but do not allow grazing during the spring or early summer.

3) Recommend no grazing be allowed if BLM does not have the fiscal resources to plan, implement, and monitor any part of the grazing activities outlined in this plan.

4) Consider the effects of livestock grazing and timber harvest, on:

   a) animal species that depend on herbaceous vegetation or trees for their habitat and predators that rely on these animals, i.e., northern goshawk, flammulated owls, loggerhead shrike, deer, and elk.

   b) the number of small replacement conifers which are able to become established and overall health of a forest.

   c) watershed health such as soil compaction, plant litter, infiltration rates, runoff, erosion, and watershed hydrology.

   d) microbiotic crusts.

   e) introduction of new species and altered habitats (plant and animal).

   f) ecological versus livestock objectives on the long-term health of the western juniper ecosystem.

   g) past and present improper livestock grazing and fire suppression and how these problems will be rectified.

   h) livestock grazing on riparian areas.

   i) stabilizing and restoring soils, particularly on uplands.

5) Allotment Management Plans (AMPs) should be completed on all allotments and livestock permittees should demonstrate a period of compliance with management goals before planning future range projects such as juniper eradication.

6) This plan should describe stocking levels, season of grazing, grazing systems, and consequences of not meeting resource management objectives.

7) Will this plan consider changes in grazing capacity and if so will Animal Unit Months (AUMs) be reduced? What data would be used to establish grazing capacity "old" or "new."

8) Will forage allocations change between livestock and wildlife?

9) Allocate forage in the following priority order; first threatened and endangered or sensitive species, wildlife, wild horses, with any remaining to domestic livestock.

10) Consider what level of livestock use the rangeland can sustain long term in order to restore and sustain the native community.

11) How will riparian management affect livestock management?

12) What data will be used to measure health of the watershed? Where will data come from?

13) Determine areas suitable for watershed restoration.

14) Discuss what mitigation measures or design modifications should occur, when livestock trespass occurs or if livestock management systems do not work.

15) Do not allow additional fencing on public land to accommodate cattle grazing.

16) Plan to reduce cattle AUMs during drought years to ensure adequate forage for wildlife.

17) Present grazing practices should be allowed to continue.

18) Consideration should be given to the control of grasshoppers and Mormon crickets on rangelands.

19) Uncontrolled grazing by wild horses has a very detrimental effect on rangeland; the number of horse herds should be reduced to a number only necessary to preserve history and to accommodate tourism.

20) Herd management plans for wild horses should assure timely gathers to prevent exceeding Appropriate Management Levels (AMLs).

21) Wild horses should be controlled and kept to a minimum since they graze public land year-round.

22) Consider grazing domestic goats to control brush and juniper.

23) How will new regulations associated with Rangeland Reform be incorporated into this plan?

24) Consider criteria and standards for allowing supplemental grazing use.

25) Determine if more flexibility can be built into grazing systems, i.e., extending or shortening grazing seasons, develop adaptable grazing systems; incorporate written flexibility standards to reflect weather and other factors affecting plant growth.

26) How will this plan affect existing AMPs?

27) Consider consequences of vandalism of range improvements resulting from increased public use and the financial impacts to permittees who bear the cost of maintenance.

28) Analyze BLM's ability to maintain an increasing number of Bureau-initiated projects, such as exclosure fences and guzzlers, before they are proposed.

29) Private water rights issues need to be maintained; need to ensure that water is kept in the local area where it originated? Don't overexpand water distribution systems.

30) Continue development of water sources for livestock and wildlife needs.

31) Recommend appropriate methods for maintaining seeded areas, i.e., spraying, plowing, etc.

32) Consider how to dispose of old project materials, i.e., water tanks, troughs, fence wire.

33) Restrict Big Indian and Little Blitzen Gorges and the High Steens from grazing.

34) Consider current ecosystem management philosophy when developing vegetation treatment projects.

35) Use pre-European conditions as baseline for management actions.

36) Focus on "health of land"—what land can produce and sustain and also leave some land as "nonmanaged."

37) Focus on restoration of native grasslands.

38) Gather more baseline data on ecological processes such as cryptogamic crusts; use this data to base management decisions on; focus on restoration.

Wildlife

1) Avoid conflicts between bighorn sheep and domestic sheep.

2) Address possible bighorn reintroductions into historic habitat, including forage competition with livestock and other wildlife species and other possible conflicts.

3) Consider updating boundaries of important wildlife habitats including winter and summer ranges and key birthing areas.

4) Consider how to manage possible damage to elk habitat considering the ever-increasing numbers we are experiencing.

5) Beaver should be controlled since they do much harm to streams by cutting down trees.

6) Address important criteria for accomplishing predator control.

7) Keep livestock to a minimum on upland bird habitat during the nesting period.

8) Maintain and enhance bat habitat to ensure bats as a natural alternative method for controlling rangeland insect pests.

9) Juniper management objectives should consider the habitat needs of rare species such as the spotted bat and the Pacific western big-eared bat.

10) Protection of winter habitat for bighorn sheep and mule deer should be a priority.

11) Livestock management objectives should include the needs of sensitive native wildlife species.

12) Study the economic value of sustaining viable populations of native wildlife species.

13) Incorporate wildlife projects with projects for other resource activities.

14) Include management prescriptions for other sensitive species; i.e., ferruginous hawk, yellow-billed cuckoo, sage grouse, and pygmy rabbit.

Minerals

1) Keep the public land open to hobby collecting of mineral and lapidary materials.

2) Mineral entry and mining should be a major issue, particularly under Alternative A.

3) Identify suitable locations for the development of mineral material sites.

4) Consider the impacts of mining on vegetation, water quality and quantity, and recreation values.

5) Mining should be allowed when possible.

Fisheries

1) Consult with the U.S. Fish and Wildlife Service (USFWS) on proposed actions that affect Lahontan cutthroat trout.

2) Consider the reintroduction of anadromous fish in streams which formerly provided habitat.

3) Manage streams in a way that will provide for anadromous fish.

Lands

1) Land exchanges should be considered in order to bring critical natural and cultural resources into public ownership; outright purchase of private property should be considered if necessary for the continued preservation of historic sites such as Five Bar, 45 Ranch, and Coyote Hole.

2) Closely evaluate land exchanged out of Federal ownership for cultural, archaeological, and plant resources.

3) Streamline the land exchange process.

4) Identify areas for retention and disposal of public land by a variety of methods.

5) Target State land in the Upper Owyhee area for acquisition by the Federal government.

6) Isolated parcels of public land should be sold to adjacent landowners to improve management; sales, land exchanges, or trades of isolated parcels should be a number one priority.

7) Easements across private land should be restricted to access for fighting fire unless there is a maintained county road.

8) Keep public land in Federal ownership; the BLM does a fine job of maintaining our public land.

9) R.S. 2477 assertions are absurd and should not be recognized nor entertained.

10) Building of new roads should be discouraged and roads not absolutely needed should be restored to natural conditions.

11) Widen the road on curves in the Rooster Comb area and install guard rails. The road is currently unsafe.

12) Consider criteria for handling agricultural trespass situations.

13) Identify areas potentially suitable for landfill.

Vegetation

1) Noxious weed control on Federal land should be an issue.

2) Need more vigorous weed control to stop the invasion of Scotch thistle, leafy spurge, and yellow starthistle, especially in WSAs.

3) Roads and trails should be monitored regularly to locate movement of exotic weeds and employ aggressive suppression with integrated pest management techniques.

4) Must consider how grazing, mining, logging, and recreation effect soil and vegetation and infiltration (ground water).

5) Areas with erodible soils, sensitive plants, unique plant communities, and high archaeological values should be protected from wide spread or massive surface-disturbing activities and from recreational developments or staging areas.

6) Promote management activities that consider long-term preservation of Oregon's native vegetation.

7) Return BLM land to a series of naturally and fully functioning ecosystems.

8) Use only locally collected native seeds when restoring vegetation; cease to plant monocultures of nonnative species like crested wheatgrass to accommodate cattle grazing.

9) Vegetation management for this plan must reflect current direction that supports a wide variety of traditional consumptive and nonconsumptive uses, with emphasis on maintaining and enhancing timber production to support the local manufacturing base and forage production which supports local agricultural and recreational industries.

10) Surveys should be completed to locate plants that Native Americans used; restoration of impacted cultural plant communities should be a part of the plan.

11) Establish control sites where monitoring data can be collected to measure whether or not management objectives are being met.

12) Consider the potential of ecosystems to produce vegetation and establish baseline productions as well as determining current production.

13) Consider prehistory condition of plant communities as a basis for recovery.

14) Vegetation is actually improving; present management is working and should continue.

Fire

1) Strongly urge planning for the reintroduction of fire to restore native plant communities; restoration of functioning native ecosystems should be the driving force in management decisions, not commodity concerns such as grazing.

2) Need to develop a long-term plan including the number of acres to be burned each year in order to keep ahead of increase in trees invading grasslands.

3) Plans for the reintroduction of fire should include a let burn policy.

4) Grazing should be used as a productive tool in fire management to remove fuels in certain areas.

5) Big Indian Gorge should be burned every 3 or 4 years to improve wildlife habitat.

6) Use fire to control juniper invasions.

7) Recent scientific studies indicate modified fire suppression would be appropriate in natural plant communities where potential for cheatgrass infestation (and expansion of other exotic species or noxious weeds) is minimal.

8) Fire management should consider sensitive plant and animal species.

9) The highest priority for reintroducing fire should be to stabilize and restore soils, especially on uplands, to protect and restore native plant species, and improve water quality and water yield.

10) Livestock permittees should have a voice in the decision to let a naturally caused fire burn because of the effect on their ability to graze an area.

11) Address smoke management and the affect of smoke on local county communities—from both natural and prescribed fires.

Special Status Plants

1) Inventories should be completed to locate Special Status species habitat.

2) Include species identified by Oregon Department of Fish and Wildlife (ODFW) as "sensitive in Oregon", and all other plants at risk.

3) Sites containing rare plants should be excluded from grazing.

4) Known Special Status species habitats should be monitored on a regular basis and any necessary alterations made to management practices in order to protect the plants.

5) Special Status plants should be reintroduced into former habitat when they have been extirpated. *Stephanomeria malheurensis* and plants endemic to Leslie Gulch deserve special attention.

Other Comments

1) Anything similar to Alternative 2 of the South Steens Allotment Management Plan and Environmental Assessment?

2) Make use of volunteers; centralize your volunteer needs in one yearly publication to volunteers.

3) Minimize the paving of roads, keep areas as natural as possible.

4) Public awareness demands special emphasis be given three geographic areas within the SEORMP/EIS to restore degraded conditions.

a) Trout Creek Mountains
b) Steens Mountain
c) Owyhee River

5) BLM should not spend its scarce people and dollar resources on planning that benefits small, special interest groups who exploit and damage public property. Land use decisions should be favorable to healthy ecosystems including soil, water, and vegetation; important uses to preserve enjoyment of wildlife and scenery, camping, hiking.

6) Ensure compliance with the Clean Water Act and Oregon environmental laws. Involve the Oregon Department of Environmental Quality (ODEQ) in development of management alternatives.

7) Consider the need for road and bridge improvements.

8) Coordinate any proposed road closures with the counties.

9) Propose actions which help protect cultural resources from grazing impacts; ensure compliance with the National Historic Preservation Act.

10) Provide for an indepth economic analysis that compares the costs and benefits of capital improvements for grazing.

11) Enhance economic benefits by emphasizing grass production and good environmental practices in order to bolster the economies of local communities.

12) Develop a flexible management strategy to ensure prudent use of natural resources by competing demands on the ecosystem.

13) Human elements (needs) should be considered in the plan.

14) In the planning process, balance the needs of all resource and recreation users.

15) This plan should be coordinated with the Malheur County and Harney County land use plans.

16) Be sensitive to the potential conflicts between "commodity" uses and "natural values" when developing choices in the plan. Carefully consider such things as scientific knowledge which may help.

17) Will decisions be made on what most people want?

18) Work to get rural and urban people talking to each other and working together.

19) When information from the Interior Columbia Basin Ecosystem Management Plan(ICBEMP)/EIS is incorporated into the SEORMP/EIS make sure it is made compatible with local area needs and conditions.

20) The SEORMP/EIS should outline the monitoring plan in sufficient detail to describe all objectives and how to adequately communicate results to the public.

21) Will new data be collected for the SEORMP/EIS?

22) Develop a comprehensive transportation plan and road maintenance standards. For example, do not allow flat blading of roads with no provision for drainage.

23) Develop a management strategy for areas not designated wilderness by Congress.

Agencies and Groups That Sent Written Comments During Scoping

The agencies or groups that sent in written comments during the initial scoping process are listed below:

1) Range Ecology Group
2) Wildlife Management Institute
3) American Lands Access Association
4) Oregon State Division of Lands
5) Minerals Exploration Coalition
6) U.S. Fish and Wildlife Service
7) Native Plant Society of Oregon
8) U.S. Department of Transportation - Federal Highway Administration
9) Oregon Department of Environmental Quality
10) National Park Service
11) Oregon Natural Resources Council
12) Oregon Trout
13) Oregon Parks and Recreation Department
14) Animal and Plant Health Inspection Service
15) Bureau of Reclamation

Appendix B

Relationship of Alternatives to Statewide Land Conservation and Development Commission (LCDC) Goals

LCDC Statewide Goal	Discussion
1) To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.	BLM's land review and planning process provides for public review and input at various stages. Public input was specifically requested in developing the issues, planning criteria, and alternatives described in the Draft SEORMP/EIS. The public was kept informed of the progress of the plan through planning updates. Public input will continue to be utilized in the environmental analysis process and development of the final plan.
2) To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.	The preferred alternative and other alternatives have been developed in accordance with the land use planning process authorized by the Federal Land Policy and Management Act (FLPMA) of 1976 which provides a policy framework for all decisions and actions.
3) To preserve and maintain agricultural land.	The majority of public land in the planning area is not suitable for agriculture. Alternatives A, C, D, and E provide the public an opportunity to acquire agricultural land through sale or exchange. Alternative B provides the public an opportunity to acquire agricultural land through exchange only. Sales and exchanges could lead to new owner requests for nonagricultural (nongrazing) use of land previously in public ownership. Since the new owner would be subject to the applicable county plan, ordinances and building permit requirements, it is assumed that the sale of public land

LCDC Statewide Goal	Discussion
	and exchanges would not, in themselves, violate county plans.
4) Conserve forestland for forest uses.	The planning area has some commercial forestland and juniper woodlands. Alternative B provides for current management direction with minimal commercial or silvicultural practices. Commercial timber harvest would be reduced under Alternatives A and C. Commercial timber harvest would not occur under Alternatives D and E. All timber and woodlands would continue to be managed for forest values under all alternatives.
5) To conserve open space and protect natural and scenic resources.	Natural and visual resources were considered in the development of the alternatives. Management actions under all alternatives would have some adverse impact on these resources. The greatest impacts would be under Alternatives A and B. The least impact to these resources would be under Alternatives C, D, and E, with some areas enhanced compared to current conditions.
6) To maintain and improve the quality of the air, water, and land resources of the State.	The Federal and State water quality standards would be met and water quality would be maintained or improved under all alternatives. All alternatives would comply with Oregon visibility protection program.
7) To protect life and property from natural disasters and hazards.	The screening criteria for the establishment of ACECs specifically address the protection of life and property from natural hazards. This has been considered, but no such areas have been identified by the public or BLM specialists for the planning area.
8) To satisfy the recreational needs of the citizens of the State and visitors and, where appropriate, to provide for siting of necessary recreational facilities including destination resorts.	The BLM actively coordinates its outdoor recreation and land use planning efforts with those of other agencies to establish integrated management objectives on a regional basis. Under all alternatives opportuni-

LCDC Statewide Goal	Discussion
	ties would be provided to meet recreation needs.
	The quantity and quality of recreational opportunities would be the greatest under Alternatives A, B, and C. The quality of dispersed recreation would be greatest under Alternatives D and E, with a balanced mix under the preferred alternative (C). Recreation emphasis would be placed on dispersed activities under Alternative E.
9) To diversify and improve the economy of the State.	Alternatives A, B, and C, would induce economic stability or gains in the long term through livestock forage production and mineral exploration. This would result in a slightly improved local and State economy. Alternatives D and E would provide lesser benefits through reduced commodity activities, and additional development or protection of certain areas. Public land may be available for rural or urban development following a BLM land sale or exchange, if the action would be permitted under the local government comprehensive plan and ordinances.
11) To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.	Land Conservation and Development Commission Statewide planning goals are administered by the Oregon Department of Land Conservation and Development. Statewide planning goals 10, and 14–19 do not apply to the planning area.
12) To provide and encourage a safe, convenient, and economic transportation system.	The establishment of transportation and utility corridors within the planning area provides for this need consistent with other goals and resource values. The availability of BLM land is greatest for those potential uses in Alternatives A, B, and C, and decreases through Alternatives D and E.

LCDC Statewide Goal	Discussion
	Conservation and efficient use of energy sources are objectives in all BLM activities. Use of dead trees for firewood is encouraged, along with sale and harvest of minor woodlands products for posts, poles, firewood, etc. Development of geothermal resources is encouraged with moderate constraints in Alternative A, and slightly increasing constraints through Alternatives B, C, and D. Alternative E closes all geothermal activity. Geothermal energy development would be consistent with applicable county plans and ordinances under all alternatives, except Alternative E.

Consistency of Alternatives with State of Oregon Wildlife Goals and Basic Objectives of the Forestry Program for Oregon

State of Oregon Goal	Discussion
Wildlife Goal	
1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.	Alternative D would maintain species of wildlife at nearly optimum levels. All other alternatives provide for reasonable numbers of wildlife consistent with the principles of multiple-use management. Alternative A presents the highest likelihood of a need for listing some nongame Special Status species under the protection of the Endangered Species Act (ESA).
2) To develop and manage the land and water of the State in a manner that will enhance the production and public enjoyment of wildlife.	All alternatives are consistent with this goal. Habitat improvement for upland, riparian, aquatic, and wetland habitats would be most pronounced in Alternatives C and D.
3) To regulate wildlife populations and the public enjoyment of wildlife in a manner that is compatible with primary uses of the land and water of the State and provides optimum public recreation benefits.	All alternatives are consistent with this goal. The opportunity for public enjoyment would be greatest under Alternatives A–D.
4) To develop and maintain public access to the land and water of the State and the wildlife resources thereon.	All alternatives are consistent with this goal. Acquisition and maintenance of public access is a major management action in each alternative.
5) To permit an orderly and equitable utilization of available wildlife.	All alternatives are consistent with this goal.

State of Oregon Goal	Discussion
Basic Forestry Objective	
1) To maintain the maximum commercial forestland base consistent with resource uses while assuring environmental quality.	Alternatives A, B, and C are consistent with this objective. Alternatives D and E would reduce the available commercial forest base acreage.
2) To maintain or increase the allowable annual harvest level to its fullest potential to offset potential socioeconomic impacts.	Since timber harvest has been nonexistent in the recent past, no significant socioeconomic impacts are anticipated under any alternative.
3) To identify and implement the levels of intensive forest management required to achieve maximum growth and harvest.	Approved forest Best Management Practices (BMPs) would be employed under all alternatives.
4) To maintain community stability by remaining flexible for increases in future harvest levels that would offset projected shortages.	The commercial forest base in the planning area is not expected to have a significant effect, either positive or negative, on the maintenance of community stability (based on the Oregon State Department of Forestry, Forestry Program for Oregon, published in 1977 and updated in 1982).

Appendix C

Scientific Names for Plants and Animals

PLANT SPECIES

Forbs

Common Name	Scientific Name
Alvord milkvetch	*Astragalus alvordensis*
Arrowleaf balsamroot	*Balsamorhiza sagittata*
Barren Valley collomia	*Collomia renacta*
Bellard's kobresia	*Kobresia myosuroides*
Biddle's lupine	*Lupinus biddlei*
Biennial stanleya	*Stanleya confertiflora*
Bigelow's four o'clock	*Mirabilis bigelovii* var. *retrorsa*
Biscuitroot	*Lomatium* spp.
Borax weed	*Nitrophila occidentalis*
Brandegee's onion	*Allium brandegei*
Bristle-flowered collomia	*Collomia macrocalyx*
Bristly combseed	*Pectocarya setosa*
Broad-flowered chaenactis	*Chaenactis stevioides*
California chicory	*Rafinesquia californica*
Camas	*Camassia* spp.
Chamber's twinpod	*Physaria chambersii*
Clasping pepperweed	*Lepidium perfoliatum*
Cooper's goldenflower	*Hymenoxys lemmonii*
Cupped downingia	*Downingia insignis*
Cusick's chaenactis	*Chaenactis cusickii*
Cusick's draba	*Draba sphaeroides* var. *cusickii*
Cusick's giant hyssop	*Agastache cusickii*
Davidson's penstemon	*Penstemon davidsonii* var. *praeteritus*
Davis' peppergrass	*Lepidium davisii*
Desert chaenactis	*Chaenactis xantiana*
Discoid goldenweed	*Ericameria discoidea* var. *discoidea*
Ertter's groundsel	*Senecio ertterae*
Flowering quillwort	*Lilaea scilloides*
Fourwinged milkvetch	*Astragalus tetrapterus*
Golden buckwheat	*Eriogonum chrysops*
Goosefoot	*Chenopodium* spp.
Gray moonwort	*Botrychium minganense*
Great Basin downingia	*Downingia laeta*
Greeley's cymopterus	*Cymopterus acaulis* var. *greeleyorum*
Grimy ivesia	*Ivesia rhypara* var. *rhypara*
Hairy wild cabbage	*Caulanthus pilosus*
Hairy-foot plantain	*Plantago eriopoda*
Halogeton	*Halogeton glomeratus*
Harper Valley fiddleneck	*Amsinckia carinata*
Hayden's cymopterus	*Cymopterus nivalis*
Hedgehog cactus	*Pediocactus simpsonii* var. *robustior*
Ibapah wavewing	*Cymopterus ibapensis*
Janish's penstemon	*Penstemon janishiae*
King's penstemon	*Penstemon kingii*
King's rattleweed	*Astragalus calycosus*
Kruckeberg's hollyfern	*Polystichum kruckebergii*
Lance-leaved grapefern	*Botrychium lanceolatum*
Large-flowered chaenactis	*Chaenactis macrantha*
Lemmon's onion	*Allium lemmonii*
Low hawksweed	*Crepis modocensis* ssp. *modocensis*
Lyrate malacothrix	*Malacothrix sonchoides*
Mackenzie's phacelia	*Phacelia lutea* var. *mackenzieorum*
Male fern	*Dryopteris filix-mas*
Malheur cryptantha	*Cryptantha propria*
Malheur forget-me-not	*Hackelia cronquistii*
Malheur stylocline	*Stylocline psilocarphoides*
Moonwort	*Botrychium lunaria*
Moss gentian	*Gentiana prostrata*
Mulford's milkvetch	*Astragalus mulfordiae*
Naked-stemmed phacelia	*Phacelia gymnoclada*
Ochre-flowered buckwheat	*Eriogonum ochrocephalum* ssp. *calcareum*
Owyhee clover	*Trifolium owyheense*
Owyhee milkvetch	*Astragalus atratus* var. *owyheensis*
Packard's blazingstar	*Mentzelia packardiae*
Packard's lomatium	*Lomatium packardiae*
Pallid milkweed	*Asclepias cryptoceras*
Palmer eveningprimrose	*Camissonia palmeri*
Playa phacelia	*Phacelia inundata*
Pinnate grapefern	*Botrychium pinnatum*
Playa buckwheat	*Eriogonum salicornioides*
Pricklypoppy	*Argemone munita* ssp. *rotundata*
Punctate langloisa	*Langloisia setosissima* ssp. *punctata*
Purple cymopterus	*Cymopterus purpurascens*
Rafinesque's pondweed	*Potamogeton diversifolius*
Raven's lomatium	*Lomatium ravenii*
Rocky Mountain helianthella	*Helianthella uniflora* var. *uniflora*
Rose's lomatium	*Lomatium roseanum*
Rush skeletonweed	*Chondrilla juncea*
Salt heliotrope	*Heliotropium curassavicum*
Short-lobed penstemon	*Penstemon seorsus*
Siberian water-milfoil	*Myriophyllum sibiricum*
Sierra onion	*Allium campanulatum*
Sierran springbeauty	*Claytonia nevadensis*
Sinister gilia	*Gilia sinistra* ssp. *sinistra*
Sky pilot	*Polemonium viscosum*
Slender gentian	*Gentianella tenella*
Slender wild cabbage	*Caulanthus major* var. *nevadensis*
Smooth blazingstar	*Mentzelia mollis*
Smooth malacothrix	*Malacothrix glabrata*
Snake River cryptantha	*Cryptantha spiculifera*
Snake River goldenweed	*Pyrrocoma radiata*
Snake River milkvetch	*Astragalus purshii* var. *ophiogenes*
Solitary milkvetch	*Astragalus solitarius*
Spreading stickseed	*Hackelia patens* var. *patens*

Common Name	Scientific Name
Steens Mountain paintbrush	*Castilleja pilosa* var. *steenensis*
Sterile milkvetch	*Astragalus sterilis*
Texas bergia	*Bergia texana*
Thick-stemmed wild cabbage	*Caulanthus crassicaulis*
Three Forks stickseed	*Hackelia ophiobia*
Torrey's malacothrix	*Malacothrix torreyi*
Trout Creek milkvetch	*Astragalus salmonis*
Two-stemmed onion	*Allium bisceptrum*
Umbellate springbeauty	*Claytonia umbellata*
Verrucose seapurslane	*Sesuvium verrucosum*
Weak-stemmed stonecrop	*Sedum debile*
Wedge-leaf saxifrage	*Saxifraga adscendens* var. *oregonensis*
White-flowered penstemon	*Penstemon pratensis*
White locoweed	*Oxytropis sericia* var. *sericea*
Yellow star thistle	*Centaurea solstitialis*
Grasses and grasslikes	
Alkali bulrush	*Scirpus robustus*
Annual dropseed	*Muhlenbergia minutissima*
Awned sedge	*Carex atherodes*
Back's sedge	*Carex backii*
Baltic rush	*Juncus balticus*
Basin wildrye	*Leymus cinereus*
Bluebunch wheatgrass	*Pseudoroegneria spicatum*
Bottlebrush squirreltail	*Elymus elymoides*
Capitate sedge	*Carex capitata*
Cattail	*Typha* spp.
Crested wheatgrass	*Agropyron cristatum*
Dark alpine sedge	*Carex subnigricans*
Desert needlegrass	*Achnatherum speciosum*
Hairstemmed rush	*Juncus capillaris*
Idaho fescue	*Festuca idahoensis*
Indian ricegrass	*Oryzopsis hymenoides*
Least rush	*Juncus hemiendytus* var. *abjectus*
Mosslike dwarf rush	*Juncus bryoides*
Needleandthread grass	*Stipa comata*
New sedge	*Carex nova*
Nodding melic	*Melica stricta*
Pinegrass	*Calamagrostis rubescens*
Porcupine sedge	*Carex hystericina*
Prairie Junegrass	*Koeleria macrantha*
Saltgrass	*Distichlis spicata*
Sand dropseed	*Sporobolus cryptandrus*
Sandberg bluegrass	*Poa secunda*
Slender wheatgrass	*Elymus trachycaulus*
Spikerush	*Eleocharis* spp.
Teacher's sedge	*Carex praeceptorum*
Thurber's needlegrass	*Stipa thurberiana*
Tiehm's rush	*Juncus tiehmii*
Torrey's rush	*Juncus torreyi*
Shrubs	
Basin big sagebrush	*Artemisia tridentata* ssp. *tridentata*
Big sagebrush	*Artemisia tridentata*
Bitterbrush	*Purshia tridentata*
Bitter cherry	*Prunus emarginata*
Black sagebrush	*Artemisia nova*
Bud sagebrush	*Artemesia spinescens*
Ceanothus	*Ceanothus* spp.
Chokecherry	*Prunus virginiana*
Drummond's willow	*Salix drummondiana*
Gray rabbitbrush	*Chrysothamnus nauseosus*
Greasewood	*Sarcobatus vermiculatus*
Green rabbitbrush	*Chrysothamnus viscidiflorus*
Iodine bush	*Allenrolfea occidentalis*
Long-flowered snowberry	*Symphoricarpos longiflorus*
Low sagebrush	*Artemisia arbuscula*
Mockorange	*Philadelphus lewisii*
Mormon tea	*Ephedra viridis*
Mountain big sagebrush	*Artemisia tridentata* ssp. *vaseyana*
Mountain mahogany	*Cercocarpus ledifolius*
Mountain snowberry	*Symphoricarpos oreophilus*
Oregongrape	*Mahonia repens*
Owyhee sagebrush	*Artemisia papposa*
Pacific willow	*Salix lucida* ssp. *lasiandra*
Packard's artemisia	*Artemisia packardiae*
Peachleaf willow	*Salix amygdaloides*
Rabbitbrush	*Chrysothamnus* spp.
Redosier dogwood	*Cornus sericea*
Sandbar willow	*Salix exigua*
Scouler's willow	*Salix scouleriana*
Serviceberry	*Amelanchier alnifolia*
Shadscale	*Atriplex confertifolia*
Silver sagebrush	*Artemisia cana*
Snowberry	*Symphoricarpos albus*
Spiny hopsage	*Grayia spinosa*
Spiraea	*Spiraea* sp.
Squaw apple	*Peraphyllum ramosissimum*
Stiff sagebrush	*Artemisia rigida*
Threetip sagebrush	*Artemisia tripartita*
Willow	*Salix* spp.
Winterfat	*Krascheninnikovia lanata*
Wood's rose	*Rosa woodsii*
Wyoming big sagebrush	*Artemisia tridentata* ssp. *wyomingensis*
Trees	
Black cottonwood	*Populus balsamifera* ssp. *trichocarpa*
Douglas fir	*Pseudotsuga menziesii*
Grand fir	*Abies grandis*
Lodgepole pine	*Pinus contorta*
Mountain alder	*Alnus incana*
Narrowleaf cottonwood	*Populus angustifolia*
Ponderosa pine	*Pinus ponderosa*
Quaking aspen	*Populus tremuloides*
Sierra willow	*Salix orestera*
Western juniper	*Juniperus occidentalis*
Western larch	*Larix occidentalis*
White fir	*Abies concolor*

ANIMAL SPECIES

Common Name	Scientific Name
Amphibians	
Blotched tiger salamander	*Ambystoma tigrinum* ssp. *melanostictum*
Columbia spotted frog	*Rana luteiventris*
Northern leopard frog	*Rana pipiens*
Western toad	*Bufo boreas*
Birds	
American avocet	*Recurvirostra americana*

Common Name	Scientific Name
American kestrel	*Falco sparverius*
American robin	*Turdus migratorius*
American white pelican	*Pelecanus erythrorhynchos*
Bank swallow	*Riparia riparia*
Barrow's goldeneye	*Bucephala islandica*
Black tern	*Chlidonias niger*
Black-backed woodpecker	*Picoides arcticus*
Blue grouse	*Dendragapus obscurus*
Bobolink	*Dolichonyx oryzivorus*
Broad-tailed hummingbird	*Selasphorus platycercus*
Bufflehead	*Bucephala albeola*
Burrowing owl	*Athene cunicularia*
Canada goose	*Branta canadensis*
Chukar partridge	*Alectoris chukar*
Cinnamon teal	*Anas cyanoptera*
Cooper's hawk	*Accipiter cooperi*
Ferruginous hawk	*Buteo regalis*
Flammulated owl	*Otus flammeolus*
Franklin's gull	*Larus pipixcan*
Gadwall	*Anas strepera*
Golden eagle	*Aquila chrysaetos*
Grasshopper sparrow	*Ammodramus savannarum*
Gray partridge	*Perdix perdix*
Great gray owl	*Strix nebulosa*
Greater sandhill crane	*Grus canadensis*
Least bittern	*Ixobrychus exilis*
Loggerhead shrike	*Lanius ludovicianus*
Long-eared owl	*Asio otus*
Mallard	*Anas platyrhynchos*
Mountain quail	*Oreortyx pictus*
Mourning dove	*Zenaida macroura*
Northern bald eagle	*Haliaeetus leucocephalus*
Northern flicker	*Colaptes auratus*
Northern goshawk	*Accipiter gentilis*
Northern harrier	*Circus cyaneus*
Northern pygmy owl	*Glaucidium gnoma*
Peregrine falcon	*Falco peregrinus ssp.*
Pileated woodpecker	*Dryocopus pileatus*
Prairie falcon	*Falco mexicanus*
Pygmy nuthatch	*Sitta pygmaea*
Red-tailed hawk	*Buteo jamaicensis*
Ring-necked pheasant	*Phasianus colchicus*
Rough-legged hawk	*Buteo lagopus*
Ruby-crowned kinglet	*Regulus calendula*
Sage grouse	*Centrocercus urophasianus*
Sage thrasher	*Oreoscoptes montanus*
Sharp-shinned hawk	*Accipiter striatus*
Snowy egret	*Egretta thula*
Spotted sandpiper	*Actitis macularia*
Swainson's hawk	*Buteo swainsoni*
Three-toed woodpecker	*Picoides tridactylus*
Tundra swan	*Cygnus columbianus*
Upland sandpiper	*Bartramia longicauda*
Valley quail	*Callipepla californica*
Western bluebird	*Sialia mexicana*
Western burrowing owl	*Athene cunicularia*
Western sage grouse	*Centrocercus urophasianus ssp. phaios*
Western snowy plover	*Charadrius alexandrinus*
White-faced ibis	*Plegadis chihi*
White-headed woodpecker	*Picoides albolarvatus*
Williamson's sapsucker	*Sphyrapicus thyroideus*
Wilson's phalarope	*Phalaropus tricolor*
Yellow-billed cuckoo	*Coccyzus americanus*

Common Name	Scientific Name
Fish	
Alvord chub	*Gila alvordensis*
Black bullhead	*Ictalurus melas*
Black crappie	*Pomoxis nigromaculatus*
Borax lake chub	*Gila boraxobius*
Brook trout	*Salvelinus fontinalis*
Brown trout	*Salmo trutta*
Bull trout	*Salvelinus confluentus*
Catlow valley redband trout	*Oncorhynchus mykiss ssp.*
Catlow valley tui chub	*Gila bicolor ssp.*
Inland redband trout	*Oncorhynchus mykiss ssp.*
Lahontan cutthroat trout	*Oncorhynchus clarki ssp. henshawi*
Lahontan redside	*Richardsonius egregius*
Malheur mottled sculpin	*Cottus bairdi ssp.*
Margined sculpin	*Cottus marginatus*
Rainbow trout	*Oncorhynchus mykiss*
Smallmouth bass	*Micropterus dolomieui*
Tahoe sucker	*Catostomus tahoensis*
Invertebrate	
Hotspring physa	*Physella spp.*
Malheur cave amphipod	*Stygobromus hubbsi*
Malheur pseudoscorpion	*Apochthonius malheuri*
Planarian	*Kenkia rhynchida*
River mussel	*Margaritifera sp.*
Threeforks pyrg	*Pyrgulopsis sp.*
Mammal	
Antelope ground squirrel	*Ammospermophilus leucurus*
Black bear	*Ursus americanus*
California bighorn sheep	*Ovis canadensis ssp.*
California wolverine	*Gulo gulo luteus*
Cougar	*Felis concolor*
Fringed bat	*Myotis thysanodes*
Kit fox	*Vulpes macrotis ssp.*
Long-eared myotis	*Myotis evotis*
Long-legged myotis	*Myotis volans*
Mule deer	*Odocoileus hemionus*
Pacific Townsend's big-eared bat	*Plecotus townsendii ssp.*
Preble's shrew	*Sorex preblei*
Pronghorn antelope	*Antilocapra americana*
Pygmy rabbit	*Brachylagus idahoensis*
Rocky Mountain elk	*Cervus canadensis*
Spotted bat	*Euderma maculatum*
White-tailed jackrabbit	*Lepus townsendi*
Yuma myotis	*Myotis yumanensis*
Reptile	
Desert horned lizard	*Phrynosoma platyrhinos*
Mojave black collared lizard	*Crotaphytus bicinctores*
Northern sagebrush lizard	*Sceloporus graciosus*
Painted turtle	*Chrysemys picta*
Western ground snake	*Sonora semiannulata*

Appendix D
Riparian/Wetland Areas

BLM depicts natural riparian/wetland areas as resources whose capability and potential is defined by the interaction of three components: (1) vegetation, (2) landform/soils, and (3) hydrology; while the functioning condition of these natural riparian/wetland areas are characterized by the interaction of these elements.

One of the main goals of the BLM is to have riparian/wetland areas in Proper Functioning Condition (PFC). An overall objective of this goal is to achieve an advanced ecological status, except where resource management objectives, including PFC, would require an earlier successional stage, thus providing the widest variety of vegetation and habitat diversity for wildlife, fish, and watershed protection.

In the past, considerable effort has been expended to inventory, classify, restore, enhance, and protect riparian/wetland areas, but the effort has lacked consistency. No single classification, survey, inventory, or rating methods or systems have previously been developed to satisfy the complex interactions of healthy riparian/wetland areas. These areas are in dynamic equilibrium with streamflow forces and channel aggradation/degradation processes producing change with vegetative, geomorphic, and structural resistance. Ecological status determination of riparian/wetland vegetation does not necessarily take into account or address needed information that would be contained within aquatic habitat and stream surveys that is pertinent to the functionality of the riparian/wetland area. This is important because riparian/wetland areas will attain PFC long before they achieve an advanced ecological status.

When evaluating riparian/wetland areas, ecological status should not be confused with PFC. Riparian/wetland areas must be viewed with the understanding that the riparian system is inherently dynamic and PFC can and will occur within any or all ecological stages. PFC should be evaluated in terms of and relationships to all physical and biological functions occurring within the entire watershed, including the uplands and tributary watershed systems.

To understand how riparian/wetland areas operate and to implement proper management practices, thus ensuring an area is healthy (functioning properly), the capability and potential of a riparian/wetland area must be understood. Assessing riparian vegetation and stream channel functionality is based upon a given riparian/wetland area's capability and potential. Here, capability is the highest ecological status a riparian-wetland area can attain given political, social, or economical constraints, whereas potential is the highest ecological status a riparian/wetland area can attain given no political, social, or economical constraints, often referred to as the "potential natural community" (PNC). Some riparian/wetland areas may be prevented from achieving their potential because of limiting factors such as human activities that alter the area's capability.

To summarize, PFC and ecological site status are two different characteristics of riparian systems. A site in any ecological status may be in functioning condition. Riparian/wetland areas should be judged on the functions that it provides compared to functions that should be present in relation to entire watershed. All riparian/wetland systems should not be expected to have identical physical and biological functions. Riparian/wetland health (functioning condition), an important component of watershed condition, refers to the ecological status of vegetation, geomorphic and hydrologic development, and a degree of structural integrity exhibited by the riparian/wetland area.

Riparian Conservation Areas

Introduction

Riparian systems are water-influenced areas that include streams and other aquatic ecosystems. Riparian Conservation Areas (RCAs) are portions of watersheds where aquatic and riparian-dependent resources receive primary emphasis and where management activities are subject to specific standards and guidelines. RCAs include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by: (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams; (2) providing root strength for channel stability; (3) shading the stream; and (4) protecting water quality.

In RCAs, maintenance, protection, and restoration of aquatic processes and functions are emphasized and goals and objectives for aquatic and riparian habitats are met. Conservation needs for aquatic and riparian systems can be summarized by the following four principles;

1) A stream requires nutrient inputs and energy to sustain its biological functions.

2) Riparian-associated plants and animals rely on the vegetation adjacent to streams.

3) Small streams are more affected by hillslope processes than larger streams.

4) The likelihood of disturbances resulting in instream effects increases as adjacent slopes become steeper.

Ecological function, processes, and disturbance mechanisms are guides for use and protection priories in riparian areas. Boundaries between riparian areas and upslopes may need adjustment to address each of the larger scale disturbance effects that may negatively or positively affect unique habitats or sensitive species in riparian environments. The actual size of riparian areas depends on local characteristics that define them; the dimensions of entire riparian areas are not always proportional to the size of aquatic systems.

RCAs are delineated into zones or gradients of influence, with an inner zone (Zone 1) where many primary processes and functions occur and an outer zone (Zone 2) where processes and functions occur but at different, less important (secondary) levels to the stream channel. The outer riparian zone also functions as a transition and buffer between upslope uses and disturbances and the aquatic environment. Zoning delineates major influence areas, establishing a basis for different levels of disturbance and vegetation management in each zone. This scheme sets the foundation for cumulative effects determination that is spatially-sensitive in considering watershed disturbance.

Although the concept of zones applies to forestland and rangeland environments, it is more difficult to apply in rangelands. For the purposes of this document, zones are delineated only in forested environments. In rangeland environments, flood prone width is used to delineate RCAs.

Forested Lands

Zone 1 is the inner riparian area; it is the primary riparian community and energy influence area. It is most important for protection and maintenance of instream conditions. It also serves to transition processes, functions, and disturbances from streams to floodplains and adjacent riparian areas. Zone 1 is the area most sensitive to land management activities.

Zone 2 is the outer riparian area. It supports additional riparian area processes and functions (for example, microclimate) and also is a buffer area capable of absorbing disturbances from the uplands. It is the interface and transition between the inner riparian area and the uplands. In steeper landscapes where soils are subject to surface erosion this zone may need extension using the slope adjustment factor. This extended area is referred to as Zone 2b.

Areas with landscapes or that are unstable or landslide prone will also be included in the RCA.

RCA Delineation Process

RCA delineation is based on three indicators: site potential tree heights, extent of flood prone width, or riparian vegetation width, whichever provide the greatest protection to aquatic and riparian resources.

Site Potential Tree Height (SPTH)—The definition of "site potential tree" for purposes of defining widths is: "The average maximum height of the tallest dominant trees (200 years or older) for a given site class" (FEMAT 1993, p.V-34).

The following site potential tree height shall be used as a minimum height for the forested Potential Vegetation Group (PVG) in the planning area. PVG = dry forest, minimum SPTH (feet) = 120.

Slope Adjustment Factor—Adjustment of stream RCA widths for slope uses a curve based on probable sediment travel distance from concentrated sources of erosion and sediment from roads (Ketcheson and Megahan 1996).

The process for delineation of forested riparian areas (perennial and intermittent streams) involves dividing RCAs into two zones:

A) Minimum Widths for Perennial Streams

Zone 1 equals one site potential tree height, or the extent of the flood prone area, or the extent of wet and moist riparian vegetation, whichever best maintains, protects, and restores the aquatic environment. **Zone 2** equals one site potential tree height or the extent of dry riparian vegetation (Zone a), plus any width added from slope adjustment curve (Zone b).

B) Minimum Widths for Intermittent Streams

Zone 1 equals one-half site potential tree height, or the extent of the flood prone area, or the extent of wet and moist riparian vegetation, whichever best maintains, protects, and restores the aquatic environment. **Zone 2** equals one-half site potential tree height, or the extent of dry riparian vegetation (Zone 2a), plus any width added from slope adjustment curve (Zone b).

C) Additional Requirements Applicable for All Streams

Additional special consideration is necessary where there are landslides and in landslide prone or unstable areas. Landslide prone determination shall be based on the procedure outlined in Tang and Montgomery (1995) or other comparable techniques.

D) Total RCA Width

Total RCA width is the sum of the widths determined from Steps A through C.

Rangeland Streams

The process of delineation for rangeland riparian RCAs (perennial or intermittent streams) relies on flood prone widths by stream type, or the extent of potential natural riparian vegetation, whichever provides the greater protection to aquatic and riparian resources. Riparian vegetation can be delineated by aerial photographs or field inspection. Floodplain area is essentially equivalent to flood prone width defined by Rosgen (1994).

The following steps can be used to determine the flood prone area. It is suggested that field units develop relationships between bankfull width and drainage area or use existing relationships for their area.

1) Determine bankfull width for the drainage area above the point on the stream.

2) Determine the stream type using Rosgen stream type (Rosgen 1994) from aerial photographs or existing classification data.

3) Select Entrenchment Ratio (ER), which is the average maximum, for the particular stream types from the following:

Stream type	*A*	*B*	*C*	*E*	*F*	*G*
Entrenchment ratio	*1.4*	*2.2*	*5.3*	*56.9*	*1.2*	*1.3*

Entrenchment: Vertical containment of stream and the degree to which it is incised in the valley floor.

Entrenchment ratio: Ratio of the width of the flood prone area to the bankfull surface width of the channel.

Because entrenchment ratio is not applicable in D streamtypes (braided systems), riparian width shall be determined on a case-by-case basis using site-specific or local information.

4) Calculate the flood prone area by multiplying the bankfull width and entrenchment ratio.

Flood prone area: Width measured at an elevation which is determined at twice the maximum bankfull depth of the stream.

Local drainage area and bankfull width relationships should be used in place of graphs. Likewise, if field verified entrenchment ratios are known, this data should also be used in place of the average maximums shown in Step 3.

Forested Land and Rangeland Ponds, Lakes, Reservoirs, and Wetlands

RCAs for ponds, lakes, reservoirs, and wetlands greater than 1-acre consist of:

- the body of water or wetland and the area to the outer edges of the riparian vegetation, or
- the extent of the seasonally saturated soil, or
- the extent of moderately and highly unstable areas, or
- a distance equal to the height of one site potential tree, or
- 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake, whichever is greatest.

For ponds, lakes, reservoirs, and wetlands less than 1-acre, the above RCA delineation shall apply, except that the minimum slope distance shall be 100 feet.

Riparian Management Objectives

Introduction

Riparian Management Objective (RMO) values for stream channel conditions, when used in combination with objectives for ICBEMP and this plan, provide criteria to help assess attainment of aquatic and riparian goals as described in the "Desired Range of Future Conditions" (see Chapter 3 of both plans). These values provide a description and characterization of watershed, riparian, and stream channel processes and existing conditions that can be expected to be met instantaneously but rather would be achieved over time.

As indicated below, some RMOs apply to forested ecosystems, some to rangeland ecosystems, and some to all ecosystems. Actions that reduce habitat quality are inconsistent with the purpose of the ICBEMP and this plans direction. However, the intent of RMOs are not to establish a ceiling for what constitutes good habitat conditions. The following statements provide the intent for the use of the RMOs and their purpose in a comprehensive program:

1) RMOs are criteria to help evaluate progress towards attainment of watershed, aquatic and riparian goals described within the DFRC.

2) Interim RMOs are not to be viewed as independent from other components of the aquatic conservation strategy; rather, they are part of an aquatic conservation program. RMOs are not always sensitive to immediate effects but rather exhibit response to cumulative effects and factors influencing channel history over time.

3) Interim RMOs do not replace State and Federal water quality standards promulgated under the CWA or State laws, but they should complement these standards in providing measurable habitat attributes.

Procedure for RMO Application

RMOs apply to all perennial streams during those times that the streams support aquatic life. Effects of land management activities on intermittent streams may influence the attainment of RMOs in perennial streams. All instream and riparian variables should be used, in combination, to provide a comprehensive synopsis of watershed, riparian, and aquatic conditions, since placing emphasis on interpretations of individual variables may lead to erroneous conclusions related to watershed, riparian, and aquatic conditions.

RMO application or development can follow these steps:

1) The values apply where ecologically attainable. Locally developed RMOs supported with information from ecosystem analysis is preferred because of the variable nature of streams within the project and planning areas. Stream conditions can vary from disturbances and channel evolution histories that influenced channel form and conditions. It is recommended that the U.S. Forest Service (USFS) and BLM managers conduct their own analysis due to the variable conditions in the project and planning areas. Managers should consider using similar techniques described by Overton et al. (1995) to define appropriate RMOs. RMOs should be developed from evaluations of reference conditions in similar landforms, climate, stream type and valley bottom settings, and potential vegetation. In all cases, the rationale supporting these changes, and the effects of the changes shall be documented.

2) Use information from Step 1 to develop management actions for conserving or restoring watershed, riparian, and channel processes.

3) Monitor implementation and effectiveness of management if they have the intended results. Provide feedback information for future management objectives, action, and evaluation of RMOs.

Specific values for instream variables (large pool frequency, pool frequency, pool depth/width, large wood frequency, temperature, bank stability, and fine sediment), options A and B and riparian vegetation are located in Tables 4 and 5 of Appendix 3-4, Eastside Draft EIS, 1997.

Riparian Trend Analysis Worksheet

Table D-1. Riparian trend analysis worksheet by category.

Usual study methods used to show trend	Downward indicators	Indicators of no change	Upward indicators
Woody riparian			
•Aerial imagery •Photo point studies •Key plant utilization studies	(A) Studies indicate a decline in the overall number of key woody plants	(A) Studies indicate no change in the overall number of key woody plants	(A) Studies indicate an increase in the overall number of key woody plants
	(B) Studies indicate a decline in the overall canopy volume (height and width) of key woody plants	(B) Studies indicate no change in the overall canopy volume (height and width) of key woody species	(B) Studies indicate an increase in the overall canopy volume (height and width) of key woody plants
	(C) Studies indicate that vegetation removal is preventing the establishment of uneven-aged classes of key woody plants	(C) Studies indicate no change in the age class structure of key woody plants	(C) Studies show that healthy uneven-aged stands of key woody plants are present
Herbaceous cover			
•Aerial imagery •Line intercept transects	(D) Studies indicate a decline in the overall amount of herbaceous ground cover	(D) Studies indicate no change in the overall amount of herbaceous ground cover	(D) Studies indicate an increase in the overall amount of herbaceous ground cover
	(E) Studies indicate that herbaceous species composition has shifted toward more early succession species	(E) Studies indicate no change in the herbaceous species composition	(E) Studies indicate that herbaceous species composition has shifted toward more late-succession species
Stream banks and channel			
•Stream channel form measurements •Aerial imagery •Photo point studies	(F) Studies indicate an increase in the amount of streambank erosion attributable to trampling damage	(F) Studies indicate no change in the amount of streambank erosion attributable to trampling damage	(F) Studies indicate a decrease in the amount of streambank erosion attributable to trampling damage
	(G) Studies show that water depth is decreasing	(G) No changes in depth measurements	(G) Studies show that water depth is increasing
	(H) Studies show that stream channel is widening	(H) No change in stream channel	(H) Studies show that stream channel width is narrowing
	(I) Studies show incised channels are widening	(I) No change in channel depth	(I) Studies show that incised channels are healing with vegetation cover
	(J) Studies show that stream meanders are decreasing and channel is straightening	(J) No change in number and type of stream meanders	(J) Studies show that stream meanders are increasing
Water quality			
•Water turbidity samples •Fish and aquatic insect samples	(K) Increase in populations of fish and aquatic insects tolerant of high turbidity, low oxygen levels, high temperatures, or presence of contaminants	(K) Sampling indicates no change in the composition of aquatic insects and fish	(K) Increase in populations of fish and aquatic insects intolerant of high turbidity, low oxygen levels, high temperatures, or presence of contaminants
	(L) Sediment transport is increasing relative to baseline data	(L) Studies show no change in the amount of sedimentation	(L) Sediment transport is decreasing relative to baseline data

Riparian Trends for Stream Segments on Public Land in the Malheur and Jordan Resource Areas

Table D-2. Riparian trends for stream segments on public land in the Malheur and Jordan resource areas.

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Upper Quinn Drainage (Hydrologic unit 16040201)					
Angel Canyon	2.0	Unknown			
Cottonwood Creek	3.8	Up	Yes		
	7.6	Unknown			
Cowboy Creek	2.6	Unknown			
Dry Creek	3.3	Unknown			
Hot Creek	0.3	Unknown			
Indian Creek	0.2	Up	Yes	Yes	LCTR
	6.2	Unknown			
Indian Creek Trib No. 1	1.4	Unknown			
Indian Creek Trib No. 2	1.8	Unknown			
Indian Creek Trib No. 3	0.2	Unknown			
Jack Creek	1.6	Unknown			
Jackson Creek	2.1	Unknown			
Jackson Creek Trib No. 1	0.5	Unknown			
Jackson Creek Trib No. 2	1.9	Unknown			
Jackson Creek Middle Fork	0.6	Unknown			
Lasa Creek	1.6	Unknown			
Line Canyon Trib No. 1	1.0	Unknown			
McDermitt Creek	11.7	Unknown	Yes	Yes	LSTS, NATV, COLD, HATV
McDermitt Creek North Fork	4.4	Unknown			COLD
McDermitt Creek Trib No. 1	1.3	Unknown			LSTS, NATV, COLD
McDermitt Creek Trib No. 2	0.8	Unknown			LSTS, NATV, COLD
McDermitt Creek Trib No. 3	1.3	Unknown			LSTS, NATV, COLD
Mine Creek	1.8	Up			
	0.2	Unknown			
Mine Creek East Fork	2.5	Unknown			
Mine Creek West Fork	3.6	Unknown			
Oregon Canyon	7.5	Unknown	Yes		HATC
Oregon Canyon East Fork	4.9	Unknown			
Oregon Canyon South Fork	1.8	Unknown			
Oregon Canyon West Fork	1.7	Unknown			
Oregon Canyon Trib No. 1	0.8	Unknown			
Oregon Canyon Trib No. 2	1.1	Unknown			
Oregon Canyon Trib No. 3	0.5	Unknown			
Oregon Canyon Trib No. 4	0.4	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Oregon Canyon Trib No. 5	0.7	Unknown			
Payne Creek	2.7	Up			
	1.2	Unknown			
Quinn River Trib No. 1	1.1	Unknown			
Quinn River Trib No. 2	0.4	Unknown			
Quinn River Trib No. 3	0.7	Unknown			
Quinn River Trib No. 4	0.6	Unknown			
Quinn River Trib No. 5	3.5	Unknown			
Quinn River Trib No. 6	3.7	Unknown			
Rock Creek	1.0	Unknown			
Sage Creek	4.2	Unknown	Yes	Yes	LCTR
Sage Creek Trib No. 1	0.5	Unknown			LCTR
Sage Creek Trib No. 2	1.7	Unknown			
Shearing Corral Creek	2.4	Unknown			
Simpson Creek	1.1	Unknown			
Spring Creek	1.7	Up			
Spring Creek Trib No. 1	1.0	Up			
St. Martin Creek	0.4	Unknown			
Tenmile Creek	7.0	Unknown			HATC
Tenmile Creek Trib No. 1	1.3	Unknown			
Tenmile Creek Trib No. 2	2.1	Unknown			
Tenmile Creek Trib No. 3	2.4	Unknown			
Tenmile Creek Trib No. 4	1.3	Unknown			
Turner Creek	2.6	Unknown			
Unnamed to South Fork Oregon CA	2.1	Unknown			
Middle Snake–Succor Drainage 17050103					
Antelope Creek	2.7	Unknown			
Carter Creek	0.6	Unknown	Yes		
South Fork Carter Creek	1.7	Up			REDB
South Fork Carter Creek Trib No. 1	0.6	Up			
Dog Creek	3.4	Unknown			
Dog Creek Trib No. 1	0.6	Unknown			
Hog Creek	1.3	Unknown			
McBride Creek	0.7	Unknown			
Pole Creek	1.7	Unknown			
Spring Creek	5.4	Unknown			
Spring Creek Trib No. 1	0.8	Unknown			
Spring Creek Trib No. 2	2.3	Unknown			
Succor Creek	5.3	Up	Yes		NATV
	1.5	Unknown			
Whiskey Creek	0.1	Unknown			
Whiskey Creek Trib No. 1	2.6	Unknown			
Wilson Creek	2.7	Unknown			
Wilson Creek Trib No. 1	1.2	Unknown			
Middle Owyhee Drainage (17050107)					
Antelope Creek	39.9	Unknown	Yes		NATV
Antelope Creek Trib No. 1	0.8	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Antelope Creek Trib No. 2	3.5	Unknown			
Antelope Creek Trib No. 3	0.7	Unknown			
Antelope Creek Trib No. 4	1.0	Unknown			
Antelope Creek Trib No. 5	1.6	Unknown			
Cavieta Creek	2.0	Unknown			
Cherry Creek	0.5	Unknown			NATV
Coburn Creek	0.6	Unknown			
Deep Creek	2.5	Unknown			
Field Creek	11.4	Unknown			NATV
Hansen Flat Creek	0.7	Unknown			
Jack Creek	7.3	Unknown			
Lake Fork	0.5	Unknown			
Massey Canyon	3.4	Unknown			
Owyhee River	15.4	Unknown	Yes		REDB, NATV, WARM, HATC
Owyhee River North Fork	2.2	Unknown			REDB, NATV, WARM
Pole Creek	9.1	Unknown			
Pole Creek Trib No. 1	0.5	Unknown			
Pole Creek Trib No. 2	2.8	Unknown			
Spring Branch Creek	2.1	Unknown			
Spring Creek	0.7	Unknown			
Steer Canyon	2.5	Unknown			
Steer Canyon Trib No. 1	1.6	Unknown			
Steer Canyon Trib No. 2	1.9	Unknown			
Toppin Creek	10.1	Unknown			
Trail Creek	7.0	Unknown			
Trail Creek Trib No. 1	1.9	Unknown			
Trail Creek Trib No. 2	1.7	Unknown			
Trail Creek Trib No. 3	1.8	Unknown			
West Little Owyhee River	7.2	Static	Yes		REDB, NATV
	48.9	Unknown			
West Little Owyhee River Trib No. 1	0.8	Unknown			
West Little Owyhee River Trib No. 2	2.1	Unknown			
West Little Owyhee River Trib No. 3	0.8	Unknown			
Willow Creek	7.2	Unknown			
Jordan Drainage (17050108)					
Chicken Creek	1.3	Unknown			
Chicken Creek Trib No. 1	0.5	Unknown			
Chicken Creek Trib No. 2	0.2	Unknown			
Cow Creek	2.6	Unknown			WARM
Fish Creek	1.7	Unknown	Yes		HATC
Horse Creek	0.4	Unknown			
Jordan Creek	3.0	Unknown	Yes		NATV, WARM
Mahogany Creek	0.7	Unknown	Yes		
Old Maids Creek	2.5	Unknown			
Old Maids Creek Trib No. 1	1.0	Unknown			
Sheep Spring Creek Trib No. 1	1.2	Unknown			
Thomas Creek	1.4	Unknown			
Trib No. 1 to Antelope Res	0.6	Unknown			
Trib No. 2 to Antelope Res	1.5	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Trib No. 3 to Antelope Res	0.4	Unknown			
Crooked-Rattlesnake Drainage (17050109)					
Battle Creek	4.4	Unknown			
Battle Creek Trib No. 1	0.5	Unknown			
Battle Creek Trib No. 3	3.9	Unknown			
Bone Creek	0.4	Unknown			NATV
Crooked Creek	3.1	Unknown	Yes		NATV
Deer Creek	2.5	Unknown			
Dry Creek	12.2	Unknown			
Isaac Canyon	0.8	Unknown			
Little Rattlesnake Creek	9.2	Unknown			
Rattlesnake Creek	23.9	Unknown		Yes	NATV, HATC
Rattlesnake Creek Trib No. 1	1.7	Unknown			
Woolhawk Canyon	7.2	Unknown			
Lower Owyhee Drainage (17050110)					
Birch Creek	3.4	Static			NATV
	5.5	Unknown			
Bogus Creek	7.2	Up			
	3.8	Unknown			
Burnt Flat Creek	1.9	Unknown			
Butte Creek	2.1	Unknown			
Butte Creek Trib No. 1	7.8	Unknown			
Cold Spring Creek	6.1	Unknown			
Cold Spring Creek Trib No. 1	4.0	Unknown			
Crowley Creek	2.5	Unknown			
Dry Creek	10.6	Unknown	Yes		REDB, NATV, WARM
Indian Creek	4.5	Static			
Jackson Creek	4.9	Unknown			
Juniper Creek	3.2	Unknown			
Lower Crowley Creek	2.3	Unknown			
L. Crowley Creek Trib No.1	2.1	Unknown			
Owyhee River	1.7	Up	Yes	Yes	REDB, NATV, WARM
	4.0	Unknown			
Owyhee River Trib No. 2	0.8	Unknown			
Road Canyon	0.7	Down			
Rock Spring Canyon	0.8	Static			
Ryegrass Creek	0.8	Unknown			
Skull Creek	3.3	Unknown			
Spring Creek	2.4	Unknown			
Twin Spring Creek Trib No. 1	0.9	Unknown			
Wildcat Creek	3.6	Unknown			
Wildcat Creek Trib No. 1	0.3	Unknown			
Willow Creek	6.2	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Upper Malheur Drainage (17050116)					
Bendire Creek	2.3	Up			
	6.3	Unknown			
Bull Canyon	6.2	Unknown			
Granite Creek	2.3	Up	Yes		
	1.8	Unknown			
Hunter Creek	1.7	Unknown			
Hunter Creek Trib No. 1	0.8	Unknown			
Little Malheur River	1.1	Static	Yes	Yes	REDB, NATV
Lost Creek	0.9	Unknown	Yes		
Malheur River	3.9	Up	Yes	Yes	NATV, HATC
Malheur River North Fork	3.6	Up	Yes	Yes	BUTR, REDB, NATV, HATC
	3.6	Static			
Malheur River South Fork	0.3	Unknown	Yes	Yes	NATV, HATC
Warm Springs Creek	3.1	Static			
Willow Basin Creek	0.2	Unknown			
Willow Basin Creek Trib No. 1	0.6	Unknown			
Lower Malheur Drainage (17050117)					
Basin Creek	0.1	Up			
	3.6	Unknown			
Black Canyon	0.9	Up			REDB
	1.1	Static			
Calf Creek	1.8	Up			REDB, NATV
	0.4	Static			
Camp Creek	5.1	Unknown			REDB
Cave Canyon	1.2	Unknown			
Chalk Canyon	3.4	Unknown			
Conroy Canyon	1.8	Unknown			
Cottonwood Creek	9.7	Up	Yes		REDB, NATV
	3.5	Static			
	1.6	Unknown			
Canyon Creek	0.7	Up			REDB
	0.9	Down			
	0.4	Unknown			
Dinner Creek	1.8	Unknown			
Gold Creek	5.4	Up	Yes		REDB
Hog Creek	1.7	Up	Yes		REDB
	2.4	Static			
	6.5	Unknown			
Hunter Creek	2.3	Up	Yes		
	3.1	Down			
Keeney Creek	11.0	Unknown			
Long Creek	2.8	Unknown			
Malheur River	2.3	Up	Yes	Yes	REDB, NATV, HATC, WARM
	0.5	Unknown			
Malheur River Trib No. 1	0.3	Up			
	4.2	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Negro Rock Canyon	7.4	Unknown			
Pole Creek	2.2	Up	Yes		REDB, NATV
Simmons Gulch	3.8	Up			
Squaw Creek	11.3	Up			REDB, NATV
Squaw Creek South Fork	2.3	Static			
Spring Creek	2.1	Unknown			
Tims Creek	1.2	Unknown			
Wildcat Creek	1.7	Unknown			
Bully Drainage (17050118)					
Beaver Dam Creek	2.1	Unknown			
Birch Creek	1.9	Unknown			
Brady Creek	1.4	Unknown			REDB
Brady Creek Trib No. 1	1.2	Unknown			
Brian Creek	1.9	Down			
Bully Creek	0.4	Down	Yes	Yes	REDB, NATV
	0.8	Unknown			
Bully Creek North Fork	0.8	Down			
	4.9	Unknown			
Clover Creek	1.7	Down	Yes		REDB, NATV
	1.4	Unknown			
Clover Creek Trib No. 1	1.8	Unknown			
Clover Creek Trib No. 2	1.4	Unknown			
Cottonwood Creek	3.0	Up	Yes		REDB, NATV, HATC
	1.1	Static			
	4.4	Down			
Cottonwood Creek South Fork	0.3	Static			REDB, NATV
	5.9	Unknown			
Cottonwood Creek West Fork	2.7	Static			REDB, NATV
Deep Creek	0.7	Unknown			
Deep Creek Trib No. 1	0.3	Unknown			
East Prong Dry Creek	5.7	Down			
Godding Creek	3.3	Unknown			REDB, NATV
Hay Canyon	1.9	Unknown			
Indian Creek	1.0	Static			
	1.6	Unknown			
Indian Creek North Fork	4.1	Unknown			
Indian Creek South Fork	2.0	Up	Yes		REDB, NATV
	1.9	Unknown			
Indian Creek South Fork Trib No. 2	1.5	Unknown			
Kitten Canyon	2.6	Unknown			
Log Canyon	4.2	Unknown			
McArthur Creek	2.8	Down			
North Bully Creek	2.9	Down			
NG Creek	1.5	Up	Yes		
	1.6	Static			
	4.8	Down			
Puckett Creek	1.6	Down			
Puckett Creek Trib No. 1	0.6	Down			
Rail Canyon	1.9	Unknown			REDB, NATV
Rail Canyon Trib No. 1	1.1	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Reds Creek	6.5	Static			REDB, NATV
Rock Cabin Creek	4.7	Down			
South Bully Creek	4.6	Down			REDB, NATV
South Clover Creek	4.0	Unknown			
Steamboat Creek	3.5	Unknown			
Swamp Creek	1.7	Static			
Whiskey Gulch	1.4	Unknown			
Willow Drainage (17050119)					
Basin Creek	0.3	Up			
Black Creek	3.9	Static			
Bridge Creek	1.2	Unknown			
Dry Gulch	2.8	Unknown	Yes		
Dry Gulch Trib No. 1	0.5	Up			
Dry Gulch Trib No. 2	3.0	Unknown			
Dry Gulch Trib No. 3	1.4	Static			
Henry Gulch	1.0	Up			
Kern Creek	4.4	Unknown			
Milk Branch Boulder Creek	0.7	Unknown			
Mill Boulder Creek	0.5	Unknown			
Mud Creek	2.6	Unknown			
Phipps Creek	2.0	Unknown			
Pole Creek	0.2	Up	Yes		
	3.1	Down			
Shasta Gulch	2.1	Up			
	0.3	Static			
Sheep Corral Creek	2.0	Unknown			
Turner Creek	3.7	Down			
Waterfall Creek	0.2	Unknown			
Willow Creek	3.8	Up	Yes	Yes	
	0.7	Unknown			
Willow Creek Middle Fork	0.5	Unknown			
Willow Creek North Fork Trib No. 1	3.3	Unknown			
Brownlee Reservoir Drainage (17050201)					
Birch Creek	0.3	Unknown			
Alvord Lake Drainage (17120009)					
Antelope Creek	8.4	Unknown			LCTR
Antelope Creek Trib No. 1	0.5	Unknown			
Antelope Creek Trib No. 2	1.9	Unknown			
Cottonwood Creek	6.8	Unknown			LCTR
Doolittle Creek	8.3	Up	Yes		LCTR
Doolittle Creek Trib No. 1	0.8	Unknown			

Stream	Miles	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Dry Creek	8.0	Unknown			
Dry Creek Trib No. 1	1.4	Unknown			
Fifteenmile Creek	6.9	Up	Yes		LCTR
	3.9	Unknown			
Fifteenmile Creek Trib No. 1	1.0	Unknown			
Fish Creek	6.5	Unknown			
Fish Creek South Fork	1.1	Unknown			
Jaw Bone Creek	2.2	Unknown			LCTR
Little Whitehorse Creek	8.8	Up	Yes	Yes	LCTR
	3.5	Unknown			
L. Whitehorse Cr. Trib No. 1	4.4	Up			LCTR
Sheepline Canyon	3.5	Unknown			
Twelvemile Creek	8.4	Unknown			
Twelvemile Creek Trib No. 1	2.1	Unknown			
Whitehorse Creek	5.6	Up	Yes		LCTR
	8.9	Unknown			
Whitehorse Creek Trib No. 1	0.9	Unknown			
Whitehorse Creek Trib No. 2	1.6	Unknown			
Whitehorse Creek Trib No. 2A	0.8	Unknown			
Whitehorse Creek Trib No. 2B	0.5	Unknown			
Willow Creek	13.8	Up	Yes	Yes	LCTR
	1.8	Unknown			
Willow Creek Trib No. 1	0.9	Unknown			
Willow Creek Trib No. 2	1.2	Unknown			
Willow Creek Trib No. 3	2.0	Unknown			
Willow Creek Trib No. 4	0.6	Unknown			

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[1] If a fish species is noted as present, the species may not be in all stream reaches, and all stream reaches may not have fish. See previous table for definition of species abbreviations.

Riparian Condition and Trend for Public Land in the Andrews Resource Area

Table D-3. Riparian condition and trend for public land in the Andrews Resource Area.[1]

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[2]
Harney-Malheur Lake Drainage (17120001)						
Riddle Creek	2.3	Poor	Static	Yes	Yes	REDB
Deep Creek	1.0	Fair	Unknown			
	0.2	Unknown	Unknown			
Donner und Blitzen (17120003)						
Donner und Blitzen River	5.5	Excellent	Static	Yes		REDB, MMSC, NATV
	5.6	Good	Up			
	5.9	Fair	Up			
	0.3	Fair	Static			
Bridge Creek	1.6	Good	Static	Yes		REDB, MMSC, NATV, WARM
	0.6	Fair	Static			
	0.3	Poor	Static			
Little Bridge Creek	0.4	Unknown	Unknown	Yes		
Cucamonga Creek	0.4	Fair	Up	Yes		REDB
	0.3	Fair	Static			
	0.2	Poor	Static			
Cucamonga Creek Trib	0.3	Fair	Static			
Donner und Blitzen River Trib	0.9	Fair	Unknown			
Fish Creek	3.6	Excellent	Static	Yes		REDB, MMSC
	0.5	Good	Up			
	1.2	Good	Static			
	0.2	Fair	Static			
	0.7	Unknown	Static			
Little Fish Creek	0.5	Fair	Static	Yes		REDB
	0.6	Poor	Static			
Grove Creek	0.3	Poor	Static			REDB
	0.4	Unknown	Static			
	0.5	Unknown	Unknown			
Indian Creek	1.2	Good	Up	Yes		REDB, MMSC, NATV
	3.0	Fair	Up			
Big Indian Creek	5.3	Good	Up	Yes		REDB, MMSC
	0.6	Good	Unknown			
Little Indian Creek	1.5	Excellent	Static			REDB, MMSC
	2.2	Good	Up			

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
	0.3	Unknown	Static			
Kiger Creek	2.2	Good	Up	Yes		REDB, MMSC, NATV
	3.6	Fair	Up			
	0.5	Fair	Static			
Little Kiger Creek	0.2	Unknown	Unknown	Yes		REDB
Deep Creek	0.2	Unknown	Unknown	Yes		REDB
Deep Creek Trib	0.7	Unknown	Unknown			REDB
Big Pasture Creek	0.1	Good	Up			REDB
Mud Creek	0.2	Poor	Unknown			REDB
Krumbo Creek	0.1	Good	Up	Yes		REDB, NATV, WARM, HATC
	1.2	Poor	Up			
Krumbo Creek Trib	0.3	Fair	Unknown			REDB
	0.6	Poor	Up			
Little Blitzen River	4.3	Good	Up	Yes	Yes	REDB, MMSC
	0.7	Good	Static			
	7.8	Fair	Up			
McCoy Creek	0.2	Good	Up	Yes		REDB, MMSC, NATV, WARM
	0.8	Good	Static			
	0.2	Good	Unknown			
	0.8	Fair	Up			
	0.7	Fair	Static			
	0.6	Fair	Down			
	0.8	Fair	Unknown			
	3.0	Poor	Static			
	2.0	Poor	Down			
	1.0	Poor	Unknown			
	1.3	Unknown	Static			
	0.3	Unknown	Unknown			
McCoy Creek Trib	1.7	Good	Unknown			REDB
	0.8	Fair	Unknown			
	1.6	Poor	Unknown			
	0.7	Poor	Down			
	1.7	Unknown	Unknown			
Dingle Creek	0.4	Good	Static			
	1.0	Fair	Static			
	0.2	Poor	Static			
	0.5	Poor	Down			
Whiskey Creek	0.3	Poor	Unknown			
Mud Creek	5.1	Fair	Up	Yes		REDB, MMSC, NATV
	0.5	Poor	Up			
Big Fir Creek	1.5	Fair	Up			REDB
	0.2	Poor	Unknown			
Little Fir Creek	1.3	Unknown	Unknown			
SF Donner und Blitzen River	0.8	Good	Up	Yes	Yes	REDB, MMSC, NATV
	6.1	Fair	Up			
	3.1	Fair	Static			
Ankle Creek	0.4	Fair	Up	Yes		REDB, MMSC
	0.7	Fair	Unknown			
	0.3	Poor	Static			
	0.2	Unknown	Static			
Ankle Creek Trib	0.3	Fair	Unknown			REDB

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (*d*) water quality limited	Fish species in stream[1]
	0.5	Unknown	Unknown			
South Fork Ankle Creek	0.8	Poor	Static			REDB
Deep Creek	1.1	Fair	Up			REDB, MMSC
	0.2	Unknown	Static			
Deep Creek Trib	0.2	Fair	Unknown			REDB
	0.2	Unknown	Unknown			
Mud Creek	0.6	Unknown	Unknown	Yes		REDB, MMSC
Tombstone Canyon Creek	0.6	Fair	Unknown			
Guano (Catlow) (17120008)						
Home Creek	2.0	Excellent	Static	Yes	Yes	CARB
	0.5	Fair	Static			
	1.4	Poor	Up			
	1.4	Poor	Static			
Home Creek Trib	1.0	Poor	Static			
	0.2	Poor	Unknown			
Rock Creek	4.6	Poor	Unknown	Yes[2]		CARB, CATC
Skull Creek	1.6	Fair	Up	Yes	Yes	CATC
	0.3	Fair	Down			
Threemile Creek	1.8	Good	Static	Yes		CARB
	0.1	Good	Unknown			
	1.6	Poor	Up			
Alvord (17120009)						
Arizona Creek	0.4	Good	Up			
	0.7	Fair	Up			
Big Alvord Creek	2.4	Excellent	Static			LCTR
	0.5	Excellent	Unknown			
Big Alvord Creek Trib	3.3	Excellent	Static			
Bone Creek	0.5	Good	Unknown			
	1.9	Fair	Unknown			
Bone Creek Trib	0.4	Good	Unknown			
	0.2	Fair	Unknown			
Burke Spring Creek	0.2	Fair	Static			
	0.3	Fair	Unknown			
	0.4	Poor	Up			
Burke Spring Creek Trib	0.1	Unknown	Up			
Carlson Creek	0.4	Good	Up			
	0.7	Fair	Static			
	0.3	Fair	Unknown			
Castle Rock Creek	1.0	Excellent	Static			
	0.5	Unknown	Static			
Catlow Creek	0.7	Good	Up			
	0.3	Fair	Up			
Catlow Creek Trib	0.1	Fair	Up			
South Fork Catlow Creek	1.6	Good	Up			
	1.9	Fair	Up			
	0.2	Unknown	Up			
Cherry Creek	0.8	Good	Static			
	0.6	Fair	Up			

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
	0.2	Unknown	Up			
Colony Creek	2.0	Poor	Up			
Colony Creek Trib	0.3	Poor	Up			
Cottonwood Creek (Steens Mtn)	1.9	Excellent	Static			LCTR
Cottonwood Creek Trib	1.3	Excellent	Static			
Cottonwood Creek (Trout Creek Mountain)	0.2	Poor	Unknown	Yes		
Borrow Creek	0.7	Unknown	Unknown			
Cold Creek	0.2	Fair	Unknown			
Grassy Canyon Creek	0.9	Unknown	Unknown			
South Fork Cottonwood Creek	0.5	Poor	Unknown			
Deppy Creek	0.8	Good	Up			
	0.7	Fair	Up			
	0.1	Unknown	Up			
Denio Creek	1.3	Excellent	Static	Yes	Yes	LCTR, GIAL
	0.4	Good	Static			
	0.2	Fair	Static			
	0.8	Fair	Unknown			
	1.5	Poor	Static			
	0.3	Unknown	Static			
Denio Creek Trib	0.4	Good	Static			
	0.4	Fair	Static			
	0.1	Fair	Unknown			
Fields Creek	1.7	Fair	Up	Yes		
Babes Canyon Creek	0.4	Unknown	Unknown			
Pass Creek	2.1	Fair	Unknown			
	1.1	Poor	Unknown			
	0.2	Unknown	Unknown			
Fields Creek Trib	0.7	Fair	Unknown			
	1.3	Poor	Unknown			
Indian Creek	1.1	Excellent	Up			
	1.0	Excellent	Static			
	0.2	Unknown	Up			
Indian Creek Trib	0.4	Excellent	Static			
Little Alvord Creek	0.7	Excellent	Static			LCTR
	0.7	Excellent	Unknown			
Little Alvord Creek Trib	0.1	Excellent	Static			LCTR
	0.2	Fair	Static			
Little Cottonwood Creek	0.9	Good	Unknown	Yes		
	3.7	Poor	Up			
Little Cottonwood Creek Trib	0.6	Excellent	Up			
	1.0	Good	Up			
	1.1	Good	Unknown			
	1.7	Fair	Up			
	1.0	Poor	Up			
Little McCoy Creek	0.8	Excellent	Static			LCTR
	2.3	Unknown	Static			
Little McCoy Creek Trib	0.9	Excellent	Static			
Mann Creek	0.7	Excellent	Static			HATC
	0.9	Unknown	Static			
Mosquito Creek	1.0	Excellent	Static			LCTR
	0.3	Unknown	Static			
Mosquito Creek Trib	0.9	Excellent	Static			

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
	0.8	Good	Static			
Pike Creek	0.7	Excellent	Up			LCTR
	1.6	Excellent	Static			
	0.2	Fair	Up			
	0.1	Unknown	Up			
Pike Creek Trib	0.3	Excellent	Unknown			
Pueblo Creek	0.8	Good	Static			GIAL
Pueblo Slough	1.5	Unknown	Unknown			GIAL
Reaux Creek	0.6	Fair	Up	Yes		
	1.1	Poor	Up			
	0.3	Poor	Static			
Red Point Creek	1.0	Fair	Up			
Reynolds Creek	0.5	Good	Static			
Schouver Creek	0.4	Fair	Unknown			
	0.9	Poor	Unknown			
Schouver Creek Trib	0.3	Fair	Unknown			
Sesena Creek	0.4	Good	Static			
	0.8	Fair	Up			
	1.3	Poor	Up			
	0.2	Poor	Unknown			
	0.6	Unknown	Unknown			
Stonehouse Creek	0.4	Fair	Static			
	0.5	Poor	Static			
Stonehouse Creek Trib No. 1	1.0	Fair	Static			
Stonehouse Creek Trib No. 2	1.7	Unknown	Unknown			
Trout Creek	2.2	Good	Up	Yes	Yes	GIAL, TRHY
	1.5	Good	Unknown			
	5.7	Unknown	Unknown			
Big Trout Creek	2.2	Good	Up	Yes	Yes	GIAL, TRHY
	4.2	Fair	Up			
	1.0	Fair	Unknown			
	1.6	Poor	Up			
East Fork Big Trout Creek	0.7	Fair	Up	Yes	Yes	TRHY
	0.2	Poor	Up			
Big Trout Creek Trib	0.1	Good	Up			
	0.3	Good	Unknown			
	0.6	Fair	Unknown			
	0.8	Poor	Up			
	1.9	Unknown	Unknown			
Little Trout Creek	4.7	Fair	Up	Yes	Yes	TRHY
	0.2	Fair	Unknown			
	0.7	Poor	Up			
	0.1	Poor	Static			
Little Trout Creek Trib	0.4	Fair	Up			
	0.6	Fair	Unknown			
	0.2	Poor	Up			
Stony Creek	0.2	Good	Unknown			
	0.6	Unknown	Up			
	0.1	Unknown	Unknown			
Unnamed Stream No. 2	0.9	Unknown	Unknown			
Unnamed Stream No. 3	0.9	Unknown	Unknown			
Unnamed Stream No. 5	0.2	Unknown	Unknown			

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Unnamed Stream No. 6	0.2	Unknown	Unknown			
Van Horn Creek	1.4	Excellent	Static	Yes		LCTR, GIAL, COLD
	1.0	Good	Static			
	0.5	Good	Unknown			
	0.8	Fair	Up			
	0.8	Fair	Unknown			
	0.5	Poor	Up			
Van Horn Creek Trib	0.2	Excellent	Unknown			
	1.2	Excellent	Static			
	2.3	Good	Static			
	0.3	Good	Unknown			
	1.4	Fair	Up			
	1.0	Fair	Static			
Wildhorse Creek	1.0	Good	Up	Yes		HATC
	4.2	Fair	Up			
	0.2	Fair	Static			
	1.5	Poor	Up			
	0.4	Poor	Down			
	1.0	Unknown	Up			
Wildhorse Creek Trib	0.8	Good	Up			
Andrews Creek	0.3	Poor	Up			
Butte Creek	0.2	Good	Static			
Juniper Creek	1.2	Good	Static			
Little Wildhorse Creek	0.8	Good	Up			HATC
	1.7	Fair	Up			
Little Wildhorse Creek Trib	0.5	Good	Up			
Miranda Creek	1.0	Unknown	Unknown			
Spring Creek	0.7	Good	Static			
Stonehouse Creek	0.2	Good	Up			
	0.5	Good	Static			
	0.1	Good	Unknown			
	0.4	Fair	Up			
	0.4	Fair	Unknown			
	0.3	Unknown	Up			
Stonehouse Creek Trib	0.6	Good	Static			
	0.4	Fair	Unknown			
Willow Creek	0.6	Unknown	Unknown			
Willow Creek (Steens Mtn)	0.9	Excellent	Static			LCTR
	0.8	Good	Static			
	0.5	Fair	Static			
Willow Creek Trib	0.4	Excellent	Static			
Willow Creek (Pueblo Mountain)	3.5	Fair	Up			
	0.3	Fair	Unknown			
Little Willow Creek	0.1	Good	Up	Yes		
	0.7	Good	Static			
	0.9	Fair	Up			
	0.3	Poor	Up			
Roschene Spring	0.2	Fair	Unknown			
Quinn (16040201)						
Kings River	1.6	Poor	Static			HATC

Stream	Miles	Riparian condition	Trend	1988 DEQ water quality assessment	1996 303 (d) water quality limited	Fish species in stream[1]
Thousand Springs-Virgin (16040205)						
Deep Creek	1.1	Fair	Static			
Deep Creek Trib	1.6	Fair	Static			
	0.5	Poor	Static			
Pass Creek	1.0	Fair	Static			
	0.3	Fair	Unknown			
Pass Creek Trib	0.7	Fair	Static			
	0.2	Fair	Unknown			
Dip Spring Creek	0.3	Unknown	Unknown			
East Creek	1.0	Fair	Static			
	1.9	Poor	Static			
	0.1	Poor	Unknown			
East Creek Trib	1.1	Poor	Static			
Five Draws Creek	0.4	Fair	Static			
Five Draws Creek Trib	0.5	Fair	Static			
McLean Creek	0.4	Fair	Unknown			
Bodesto Creek	0.8	Good	Static			
	1.8	Fair	Static			
	0.4	Unknown	Static			
Rough Canyon Creek	1.5	Fair	Static			
Stonehouse Creek	0.2	Excellent	Static			
	1.4	Good	Static			
	2.1	Fair	Static			
	0.2	Fair	Unknown			
Stonehouse Creek Trib	0.7	Excellent	Static			
	0.9	Good	Static			
	0.2	Good	Unknown			
	0.8	Fair	Static			
	0.2	Fair	Unknown			

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[1] If a fush species is noted as present, the species may not be in all stream reaches, and all stream reaches may not have fish. See previous table for definition as species abbreviations.

[2] Based on riparian condition and trend data, BLM land only; includes streams and stream reaches that do not have fish.

[3] Reservoir portion.

Water Quality Management Plans;
Establishing TMDLs For Nonpoint Sources

The BLM is responsible to manage the requirements of the CWA on Public Lands they administer and is required to maintain water quality where it presently meets EPA-approved Oregon State Water Quality Standards and to improve water quality where it does not meet standards on Public Land. Specific water bodies within the planning area that do not meet Oregon water quality standards have been placed by the State of Oregon on an EPA approved list of Water Quality Limited Segments, as defined by Section 303(d) of the CWA(Table 2-10, and Appendix D, Tables D2 and D3).

As a participating partner in the endeavor to comply with appropriate state water quality standards, BLM is seeking ways to bring these streams into compliance and reduce the number of Section 303(d) listed stream segments on public land. There are several ways for these waters to qualify for removal from this list; 1)applicable water standards are attained; 2)sufficiently stringent pollution requirements are applied; and 3)total maximum daily loads (TMDLs) are implemented that are designed to achieve water quality standards. TMDLs are quantifiable load allocations for individual pollutants that are assigned to each source for waters that are violating state water quality standards and failing to protect associated beneficial uses.

On a case-by-case basis, Water Quality Management Plans (WQMPs) can be developed to serve as TMDLS for individual or groups of subbasins, watersheds, or specific streams. Criteria for developing WQMPs that are acceptable as nonpoint source TMDLs are described in the Oregon DEQ document, Guidance for Developing Water Quality Management Plans That Will Function as TMDLs for Nonpoint Sources. To serve as approved nonpoint source TMDLs, WQMPs have to address identified adverse conditions within the listed stream segments and associated watersheds then specify actions and requirements necessary to restore and meet water quality standards.

Each WQMP developed from DEQ's guidance document must include and adequately address the elements described below:

1. Condition Assessment and Problem Description
2. Goals and Objectives
3. Proposed Management Measures
4. Timeline for Implementation
5. Identification of Responsible Participants
6. Reasonable Assurance of Implementation
7. Monitoring and Evaluation
8. Public Involvement
9. Maintenance of Effort Over Time
10. Discussion of Costs and Funding

Some of these ten elements, in particular goals, objectives, reasonable assurance of implementation, and maintenance of effort over time, may be effectively addressed at the scale of the SEORMP, and individual WQMPs will tier or refer to the three Resource Management Plans and approved Records of Decision. Other elements, such as local condition descriptions, management measures, timelines, participants and monitoring plans are more effectively addressed at site-specific scale. Many of these elements, from condition assessment to funding, may be found in existing BLM plans and other documents. The SEORMP incorporates the management of these plans and expands upon many of the objectives, methodologies, criteria, Best Management Practices (Appendix O), and livestock grazing practices and project development (Appendix R & S) both for the uplands and riparian/wetland areas.

The BLM intends to use the SEORMP as partial fulfillment of DEQ's ten elements of a WQMP. The BLM is formally requesting public comment on this appendix and the sections it references as partial fulfillment of DEQ's ten elements of a WQMP. WQMPs for geographic regions will be developed to complement the SEORMP in fulfilling DEQ's ten elements of a WQMP.

Element 1: Condition Assessment and Problem Description

In Chapter 2 of this SEORMP, past and present permitted uses and activities on Public Lands have been identified that have impaired water quality standards and beneficial uses as identified in Oregon Administrative Rules Chapter 340 of listed waterbodies and stream segments. The beneficial uses that are most impacted by these other nonpoint source pollutants are primarily salmonid fish spawning and salmonid fish rearing, although aesthetics, resident fish and aquatic life, and water contact recreation could also be affected. Descriptions of how these may be affected are in Chapter 2 and Chapter 3.

Descriptions of subbasins, upland, riparian, and stream conditions in general are in Chapter 2, as are the human-caused activities that can affect water quality. Although human-caused point-source pollution occurs in the subbasins, most of the pollution related to BLM activities is non-point source. In general, the relationship between the upland and riparian conditions to water quality are identified in Table 1.

Water quality in the area also naturally varies greatly depending on topography, elevation, proximity to spring sources, climate, and other factors that are outside of human control.

Late summer volumes are naturally affected by high elevations of the upper portions of the watersheds, the depth of the snowpack, the timing and duration of the snowmelt, and the level of saturation or dryness of the landscape. Several water quality parameters, including water temperature, dissolved oxygen, and instream habitat availability, are consequently affected.

The size of the watershed and amount of ground water recharge from springs or subsurface flow are also factors. These factors also influence the level of downstream erosive forces, which can also affect the amount of sedimentation and quality of instream habitat. Water temperature can be affected by ambient air temperature and exposure to solar radiation, as affected by elevation, topography, aspect, annual temperature variation, and season, all of which are not under human control. Dependent upon soils, topography, climate, and elevation, different areas of the watersheds have different potential vegetative communities. These and natural disturbances, such as wildfire, can affect the soil surface protection and soil infiltration capability of the uplands and riparian areas. This, in turn, can affect the level of sedimentation and water volume in the streams.

Table 1. Watershed conditions and relationship to non-point source pollution

Watershed condition	Description	NPS pollution: relation to watershed condition
I. Upland	A. Insufficient vegetative basal and canopy cover to protect surface soils	Sedimentation: Soil surface erosion in uplands
		Turbidity: Sedimentation from soil surface erosion in uplands
		Habitat modification: Siltation of spawning gravels from sedimentation and reduction in primary productivity from turbidity
	B. Insufficient vegetation to allow soil infiltration	Flow modification: Reduced water retention
		High sedimentation: High peak runoff causing upland soil surface erosion and riparian bank erosion
		High turbidity: Sedimentation from erosion in uplands and riparian area
		Habitat modification: Siltation of spawning gravels from sedimentation and reduction in primary productivity from turbidity
		High temperature: Low summer flow and reduced cool ground water inflow
		Low dissolved oxygen: High temperature reduces oxygen solubility

Table 1. Watershed conditions and relationship to non-point source pollution

Watershed condition	Description	NPS pollution: relation to watershed condition
II. Riparian area	A. Streambank shade insufficient to prevent excessive warming from direct solar radiation	High temperature: Increased exposure, allowing solar heating
		Low dissolved oxygen: High temperature reduces oxygen solubility
		Algal growth: High temperature from solar heating
		Turbidity: High algal growth
	B. Insufficient bank stability allowing excessive streambank erosion	Sedimentation: Streambank erosion
		Flow modification: Reduced floodplain development resulting in reduced water retention causing increased spring peak flows and decreased summer ground water inflow
		High temperature: Streambank erosion resulting in widening of stream allowing increased solar heating; reduced shade from overhanging banks; low summer flows and reduced cool ground water inflow
		Low dissolved oxygen: High temperature reduces oxygen solubility
		Algal growth: High temperature from solar heating
		Turbidity: High algal growth and sediments from bank erosion
		Habitat modification: Reduced point bar formation for pool formation in outer meander curves; reduced cover from undercut banks; reduced cover due to shallower waters; reduced edgewaters and floodplains for refuge from high runoff velocities and for fry habitat; reduced spawning gravel availability due to sedimentation
	C. Vegetation sparse or not vigorous, causing reduced infiltration Flow modification: Reduced water retention	High temperature: Low summer flow and reduced cool ground water inflow
		Sedimentation: Increased peak flow causing streambank erosion
		Habitat modification: See above on bank stability
	D. Vegetation sparse, reducing filtering capability	Sedimentation: Higher input of upslope sediments

Element 2: Goals and Objectives

One of the goals of the SEORMP is to meet applicable Oregon water quality standards. The SEORMP assumes that this would occur through watershed restoration, as accomplished through the achievement of the Desired Range of Future Conditions (DRFC), described in Chapter 1. The goals, objectives, and management directives in the SEORMP, described in Chapter 3, address DRFC and the expected result in improvement for water quality, riparian/wetland areas, vegetation in upland areas, habitat for special status species, and fisheries and aquatic habitat in general.

Watershed restoration is assumed to be defined by the potential of the area. For example, in areas where deep channel entrenchment has occurred such that the top of the bank is much greater than the bankfull stage, restoration is limited to the potential floodplain development within the incised channel and continued shifts in localized erosion and deposition if the channel is still moving toward equilibrium. Achievement of the water quality goal through watershed restoration would be by implementing the necessary management to meet the SEORMP objectives and the "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington."

Grazing administration regulations for the BLM (43 Code of Federal Regulations Parts 4, 1780 and 4100) set forth the requirement to manage to ". . . promote healthy, sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to promote properly functioning conditions; . . . and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands." Standards for Rangeland Health for BLM-administered lands in Oregon and Washington were developed pursuant to 43 Code of Federal Regulations, Subpart 4180 and approved August 12, 1997. Standard 4 directly states the water quality goal: "Surface water and ground water quality, influenced by agency actions, complies with State water quality standards." Standards 1 and 2 address the properly functioning condition of the watersheds. Standards 3 and 5 reflect the ecological processes in the watershed and habitat for native species. Watershed restoration and, therefore, water quality would be achieved through the attainment of Standards 1, 2, 3 and 5. The relationship of these standards to watershed conditions affecting water quality are identified in Table 2.

Although no specific water quality objective, such as temperature, for any one water quality standard for beneficial uses is identified in the SEORMP, the effects of improving riparian/wetland areas, uplands, and instream habitat are expected to result in progress towards meeting standards.

Table 2. Standards for Rangeland Health and relationship to watershed condition factors (Table 1) contributing to nonpoint source pollution

Standard	Description	Relationship to watershed condition factor (Table 1) contributing to nonpoint source pollution
1	Upland soils exhibit infiltration and permeability rates, moisture storage and stability that are appropriate to soil, climate and landform.	Protection of surface soils will increase because the improvement in species and structural diversity will result in increased vegetative basal and canopy cover to reduce erosive energy due to overland flow and precipitation. (IA) Soil infiltration will increase because the improvement in species and structural diversity will result in increased vegetative basal and canopy cover to intercept overland flow and precipitation. (IB)

Table 2. Standards for Rangeland Health and relationship to watershed condition factors (Table 1) contributing to nonpoint source pollution

Standard	Description	Relationship to watershed condition factor (Table 1) contributing to nonpoint source pollution
2	Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.	Streambank shade will be increased through improvement of shade-providing riparian woody species. (IIA)
		Streambank stability will improve through improvement of herbaceous and woody species to provide root mass to provide a matrix for holding the soil particles together. (IIB)
		Infiltration will be improved through increase in basal and canopy vegetative cover to intercept overland flow and precipitation. (IIC)
		Filtering capability will be improved through increase in basal vegetative cover to intercept sediments from overland flow, including floodplain overflow. (IID)
3	Healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate and landform are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.	Protection of surface soils will increase because the improvement in species and structural diversity will result in increased vegetative basal and canopy cover to reduce erosive energy due to overland flow and precipitation. (IA)
		Soil infiltration will increase because the improvement in species and structural diversity will result in increased vegetative basal and canopy cover to intercept overland flow and precipitation. (IB)
		Streambank shade will be increased through improvement of shade-providing riparian woody species. (IIA)
		Streambank stability will improve through improvement of herbaceous and woody species to provide root mass to provide a matrix for holding the soil particles together. (IIB)
		Infiltration will be improved through increase in basal and canopy vegetative cover to intercept overland flow and precipitation. (IIC)
		Filtering capability will be improved through increase in basal vegetative cover to intercept sediments from overland flow, including floodplain overflow. (IID)
5	Habitats support healthy, productive and diverse populations and communities of native plants and animals (including Special Status species and species of local importance) appropriate to soil, climate and landform.	Habitat modification that is adverse to the fish species will be reduced as habitat is restored to support viable populations. (IA-B, IIA-D, IIIA)
		Temperature, sedimentation, algal growth, turbidity, summer flow, and dissolved oxygen should be at levels that support viable populations of the fish species. (IA-B, IIA-D, IIIA)

Element 3: Proposed Management Measures

The SEORMP identifies an adaptive management strategy, as described in Chapter 1, to address and accomplish resource objectives on Public Lands for all permitted uses and activities, including livestock grazing. This adaptive strategy will evaluate permitted uses and activities, recommend and initiate adjustments as needed to meet the desired resource objectives, and monitor results for effectiveness. Actions and restrictions required for accomplishment of each resource objective are identified in Chapter 3 and in some cases Chapter 4. Considerable attention to this adaptive management process will be taken into account for each WQMP in order to address the issues associated with each stream segment, watershed or subbasin level. Effectiveness will be evaluated through implementation of monitoring plans associated with each WQMP. The Oregon Department of Environmental Quality has agreed that WQMPs will function as adaptive management plans, where goals or management measures are revised if monitoring or other data indicate a need.

The SEORMP addresses restoration or protection of the upland vegetation as well as the riparian/wetland areas for attainment and maintenance of water quality standards. Table 3 identifies the more pertinent management actions by alternative from Chapter 3 that will result in progress toward meeting the Standards for Rangeland Health and watershed conditions that affect water quality. The management actions that are identified in the three Resource Management Plans and approved Records of Decision will apply throughout their respective Resource Areas. Some of these actions specifically require special management to improve or protect riparian and upland watershed conditions. Others emphasize improving or protecting native vegetation and natural values. Site-specific management activities that are in compliance with the management actions identified in Table 3 and in the approved RODs are expected to allow progress towards meeting water quality standards. Other management actions in Chapter 3 may also allow progress towards meeting water quality, but they address specific areas or require site-specific assessment of effects on water quality.

Table 3. SEORMP management actions (Chapter 3) that are directly related to or emphasize Standards for Rangeland Health (SRH, Table 2) and Watershed Conditions (Table 1 and 2) that affect water quality. The listed management actions apply throughout the SEORMP planning area and either specifically require special management to improve or protect riparian and upland watershed conditions or emphasize improving or protecting native vegetation and natural values.

SEORMP Management Objective and Action #	Alt A	Alt B	Alt C	Alt D	Alt E	SRH	Watershed Condition
ENERGY AND MINERAL RESOURCES							
Objective 1 - Action 3	X		X	X	X	2	IIA,IIB,IIC,IID
Objective 2 - Action 1					X	2	IIA,IIB,IIC,IID
Objective 3 - Action 1	X		X	X	X	2	IIA,IIB,IIC,IID
RANGELAND VEGETATION							
Objective 1 Action 2			X	X		1,3	IA,IB,IIA,IIB,IIC,IID
Objective 1 - Action 3			X	X		1,3	IA,IB,IIA,IIB,IIC,IID
Objective 1- Action 5			X	X		1,3	IA,IB
FOREST AND WOODLANDS							
Objective 1 - Action 1	X		X	X	X	1,3	IA,IB
Objective 1 - Action 2	X		X	X	X	1,3,5	IA,IB
Objective 2 - Action 1			X	X		1,2,3	IA,IB
Objective 2 - Action 2	X	X	X	X		1,3	IA,IB
Objective 2 - Action 3	X	X	X	X	X	1,2,3	IA,IB,IIA,IIB,IIC,IID
WATER RESOURCES AND RIPARIAN/WETLAND AREAS							
Objective 1 - Action 1	X					2,4	IIA,IIB,IIC,IID
		X	X	X	X	1,2,3,4	IA,IB,IIA,IIB,IIC,IID
Objective 2 - Action 1	X	X				2,4	IIA,IIB,IIC,IID
			X	X	X	1,2,3,4,5	IA,IB,IIA,IIB,IIC,IID
FISH AND AQUATIC HABITAT							
Objective 1 - Action 2	X					2,4,5	IIA,IIB,IIC,IID
			X	X	X	1,2,3,4,5	IA,IB,IIA,IIB,IIC,IID
WILD HORSES							
Objective 1 - Action 2	X		X	X		1,2,3	IA,IB,IIA,IIB,IIC,IID
RANGELAND/GRAZING USE							
Objective 1 - Action 2			X	X	X	1,2,3	IA,IB,IIA,IIB,IIC,IID
RECREATION							
Objective 1 - Action 2			X	X		1,2,3,4,5	IA,IB,IIA,IIB,IIC,IID

Element 4: Timeline for Implementation

Implementation of the SEORMP will begin when the three Resource Management Plans and Records of Decision are approved and will affect uses and activities over the next 20 years. Most of the activities that affect riparian condition and water quality will be evaluated within the first 5-10 years of implementation. Implementation of management directives to meet plan objectives will occur initially within higher priorities areas based upon input from the public, and local, state, and federal agencies. Management for several currently listed 303(d) streams has already been adjusted to improve watershed conditions or water quality.

Specific timeframes for meeting standards will be dependent upon stream segment and landscape priorities. Any use or activities on Public Land that presently or in the future will not lead to the attainment of water quality standards, PFC, and RMOs in riparian/wetland areas (RCAs) will be adjusted to result in improvements in meeting plan objectives and the beneficial uses of each stream system.

Element 5: Identification of Responsible Participants

Responsible participants in proposed WQMPs that embody Public Lands or portions of Public Land may include the BLM, other state and federal agencies, as necessary, and willing private landowners within the realm of each plan. The level to which various public and private participants enter into required roles, responsibilities, and commitments for WQMPs will be determined by land ownership and the position and pattern of property within the watershed or subbasin the WQMP encompasses.

Element 6: Reasonable Assurance of Implementation

The BLM is required to comply with the Clean Water Act and meet Oregon standards for water quality. BLM conformance requirements with these standards for Public Lands, including the SEORMP planning area, are reiterated in the "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington," approved August 12, 1997. In addition, CFR 4180.2.c states, "The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards ... made effective under this section." The BLM and the Oregon Department of Environmental Quality have also entered into a Memorandum of Agreement, April 1990, that provides a framework for the two agencies to "cooperate on projects of mutual concern to protect water quality statewide and to benefit the people of the State of Oregon."

In addition to the CWA, other numerous laws, regulations, policies, and Executive Orders direct BLM to manage for water quality for the benefit of the nation and its economic, social, and recreational needs.

Water quality is not only important for beneficial human uses but also for proper ecosystem function. Management practices for grazing, mining, recreation, forest and woodland product harvest, and other forms of surface disturbing activities or vegetative management for restoring and maintaining water quality will be designed for healthy sustainable and functional rangeland ecosystems. Desired healthy and functional ecosystems requirements are described in the Fundamentals of and Standards for Rangeland Health(1997) and in the standards for aquatic/riparian strategies in the An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamth and Great Basins(1997).

Element 7: Monitoring and Evaluation

The SEORMP is an adaptive management strategy; therefore, if monitoring indicates that progress is not occurring, evaluations will be conducted on existing situation and any required adjustments will be implemented to meet the objectives . A monitoring plan will be developed and incorporated into the approved SEORMP Records of Decision to address the specific objectives, management directives, and methodologies.

Monitoring for WQMPs for each stream, watershed or subbasin will be dependent upon the issues and problems identified for that particular geographic area. Potential monitoring parameters may be those that are identified as "Potential Indicators" in the "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington." The approach to monitoring will be to monitor to the intensity and frequency needed to address each listed segment on a case-by-case basis.

Element 8: Public Involvement

The SEORMP public involvement process will potentially satisfy requirements for public involvement in WQMPs. The SEORMP is being developed with cooperation from the public at scheduled public scoping meetings and public review. This required NEPA process occurred prior to and during the development of the SEORMP and provided the public a platform to input their concerns and comments on resource issues and management objectives.

It is the BLM's intent that public comments on the listed 303(d) streams, the parameters of their listing, and any management measures which address them will serve as partial fulfillment of the public comment requirement for a WQMP. In addition to the information given in this SEORMP, each segment will also be addressed by at least one other site-specific or geographic area NEPA document, such as an environmental assessment, on which public comment has been or will have been solicited. It is the BLM's intent that this additional public comment will partially fulfill the public comment requirement for a WQMP. Any remaining measures or documentation which may constitute the remaining sections of the WQMP will be sent directly to DEQ and will be open to public comment through that agency's public comment process. DEQ is responsible for the final public comment on any WQMP or TMDL and may conduct further public involvement through their own procedures.

Element 9: Maintenance of Effort Over Time

When the SEORMP is completed and the three Records of Decision are approved, the majority of the implementation actions will cover a 20 year period with a 10 year time period for WQMPs to be written, approved and implemented on streams on the 303(d) list at the time. For any stream added to the 303(d) list after the ROD(s), a WQMP will be written within 10 years of the date of EPA's approval of the stream's addition to the list. Whenever possible and practical, WQMPs will be developed that address several streams at a time and include streams that are not on the 303(d) list at the time of plan development. Also, WQMP planning efforts may be combined with other water quality planning efforts to avoid duplication of effort and provide the most effective means of addressing water quality issues at the watershed scale.

Implementation of the plan's directives will continue on all streams over the life of the plan.

Element 10: Discussion of Costs and Funding

Guarantee of commitment to outyear budgets is not possible for the BLM because appropriations and priorities are subject to annual Congressional action. The BLM will make every attempt to secure funding for implementation of approved plans, including monitoring and required projects. Depending upon the Responsible Participants, BLM will attempt to develop alternatives to secure needed funding, including matching-funds and cost-sharing.

Appendix E
Allotment Summaries

Malheur Resource Area of Vale District administers livestock grazing within 123 allotments, Jordan Resource Area of Vale District administers livestock grazing within 46 allotments, and Andrews Resource Area of Burns District administers livestock grazing within 66 allotments. Following is a summary of the current management for each allotment, including authorized livestock grazing levels and management objectives specific to individual pastures. "Additional Management Considerations with Implementation of the Proposed RMP Alternatives" identifies known concerns within each allotment which would be addressed during the next scheduled evaluation/analysis of implementation of existing activity plans, or the development of new activity plans. The listing of resource concerns in each allotment may not be all inclusive, as other issues within a given allotment may be identified as information becomes available. Implementation of appropriate management actions to implement decisions of the RMP and regional Standards and Guidelines for Rangeland Health at the allotment scale would follow evaluation/analysis as summarized in the adaptive management process.

Malheur Resource Area

BLM allotment name:	**GOLDEN EAGLE MINE**	**Allotment number:**	**00108**
Management category:	**C**	**BLM acres:**	**276**
Number of pasture(s):	**1**	**Private acres:**	**1,990**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**46**	**Total acres:**	**2,266**
Suspended AUMs:	**0**		
Total AUMs:	**46**		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	5	5
Pronghorn	10	0	8
Elk	5	5	45

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (no identified water quality considerations)

BLM allotment name:	**BRIDGE CREEK**	Allotment number:	00109
Management category:	C	BLM acres:	40
Number of pasture(s):	1	Private acres:	820
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	4	Total acres:	860
Suspended AUMs:	0		
Total AUMs:	0		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	5	9
Pronghorn	0	0	0
Elk	10	0	45

BLM allotment name:	**RESERVOIR BUTTE**	Allotment number:	00110
Management category:	C	BLM acres:	943
Number of pasture(s):	2	Private acres:	9,261
AMP implemented:	No	State acres:	617
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	61	Total acres:	14,564
Suspended AUMs:	121		
Total AUMs:	182		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	125	30	33
Pronghorn	25	50	29
Elk	40	40	360

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (water quality assessment stream)

Cow Creek (water quality limited stream)

BLM allotment name:	**LYMAN CREEK**	Allotment number:	00111
Management category:	C	BLM acres:	79
Number of pasture(s):	1	Private acres:	2,512
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	7	Total acres:	2,591
Suspended AUMs:	0		
Total AUMs:	7		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	5	17
Pronghorn	15	0	12
Elk	5	0	23

BLM allotment name:	**IRONSIDE MTN. WEST**	**Allotment number:**	**00112**
Management category:	**C**	**BLM acres:**	**1,050**
Number of pasture(s):	**1**	**Private acres:**	**3,837**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**124**	**Total acres:**	**4,887**
Suspended AUMs:	**0**		
Total AUMs:	**124**		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Burn in 1994 part BLM

New fence between FS and BLM

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	5	17
Pronghorn	0	0	0
Elk	25	0	113

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Middle Fork Willow Creek (no identified water quality considerations)

BLM allotment name:	**BOSTON HORSE CAMP**	Allotment number:	00113
Management category:	C	BLM acres:	708
Number of pasture(s):	1	Private acres:	1,420
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	83	Total acres:	2,128
Suspended AUMs:	162		
Total AUMs:	245		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	15	14
Pronghorn	0	0	0
Elk	15	15	135

BLM allotment name:	**IRONSIDE MTN. EAST**	Allotment number:	00114
Management category:	C	BLM acres:	2,122
Number of pasture(s):	1	Private acres:	13,960
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	140	Total acres:	16,082
Suspended AUMs:	0		
Total AUMs:	140		

Existing grazing management objectives:
Custodial allotment with no management objective identified

Additional management emphasis:
None

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	5	64
Pronghorn	50	50	48
Elk	75	0	338

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Bridge Creek (no identified water quality considerations)

Special Status fish:
Redband trout

BLM allotment name:	**COW VALLEY**	**Allotment number:**	**00115**
Management category:	**C**	**BLM acres:**	**468**
Number of pasture(s):	**1**	**Private acres:**	**35,273**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	Undefined	**Other Federal acres:**	**0**
Active AUMs:	**43**	**Total acres:**	**35,741**
Suspended AUMs:	**37**		
Total AUMs:	**80**		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	25	48
Pronghorn	75	75	72
Elk	150	50	900

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cow Creek (water quality assessment stream)

BLM allotment name:	**EAST MOORES HOLLOW**	Allotment number:	00116
Management category:	C	BLM acres:	639
Number of pasture(s):	1	Private acres:	4,245
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	78
Active AUMs:	54	Total acres:	4,962
Suspended AUMs:	56		
Total AUMs:	110		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	125	46
Pronghorn	10	20	12
Elk	10	25	158

BLM allotment name:	**MALHEUR RESERVOIR**	Allotment number:	00118
Management category:	C	BLM acres:	346
Number of pasture(s):	1	Private acres:	2,594
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	56	Total acres:	2,940
Suspended AUMs:	24		
Total AUMs:	80		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	10	9
Pronghorn	25	50	29
Elk	10	10	90

BLM allotment name:	**LOST VALLEY**	**Allotment number:**	00119
Management category:	C	**BLM acres:**	1,040
Number of pasture(s):	1	**Private acres:**	5,492
AMP implemented:	No	**State acres:**	0
Season of use:	Undefined	**Other Federal acres:**	0
Active AUMs:	58	**Total acres:**	6,532
Suspended AUMs:	152		
Total AUMs:	210		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	45	5	11
Pronghorn	5	0	4
Elk	10	0	45

BLM allotment name:	**BOSWELL SPRING**	Allotment number:	00120
Management category:	C	BLM acres:	1,131
Number of pasture(s):	1	Private acres:	4,708
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	30	Total acres:	5,839
Suspended AUMs:	90		
Total AUMs:	120		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Maintain ecological condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	30	18
Pronghorn	5	5	5
Elk	15	15	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (water quality assessment stream, water quality limited stream)

Cow Creek (water quality assessment stream)

BLM allotment name:	**MIDDLE WILLOW CREEK**	**Allotment number:**	**00121**
Management category:	**C**	**BLM acres:**	**477**
Number of pasture(s):	**1**	**Private acres:**	**2,299**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**45**	**Total acres:**	**2,776**
Suspended AUMs:	**0**		
Total AUMs:	**45**		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	10	9
Pronghorn	25	10	21
Elk	10	10	90

BLM allotment name:	**SHEEP CORRAL CREEK**	**Allotment number:**	00122
Management category:	C	**BLM acres:**	1,378
Number of pasture(s):	1	**Private acres:**	3,431
AMP implemented:	No	**State acres:**	0
Season of use:	Undefined	**Other Federal acres:**	0
Active AUMs:	337	**Total acres:**	4,809
Suspended AUMs:	0		
Total AUMs:	337		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	75	29
Pronghorn	25	50	29
Elk	15	0	68

BLM allotment name:	**WICKIUP GULCH**	**Allotment number:**	00123
Management category:	C	**BLM acres:**	855
Number of pasture(s):	1	**Private acres:**	3,290
AMP implemented:	No	**State acres:**	0
Season of use:	Undefined	**Other Federal acres:**	0
Active AUMs:	118	**Total acres:**	4,145
Suspended AUMs:	22		
Total AUMs:	140		

Existing grazing management objectives:

Some pastures contain private land and are managed custodial with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	75	29
Pronghorn	10	20	11
Elk	5	30	158

BLM allotment name:	**BRIDGE GULCH**	**Allotment number:**	**00124**
Management category:	**C**	**BLM acres:**	**3,931**
Number of pasture(s):	**1**	**Private acres:**	**1,854**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	Undefined	**Other Federal acres:**	**0**
Active AUMs:	169	Total acres:	5,789
Suspended AUMs:	319		
Total AUMs:	488		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Maintain the integrity of research and study plots

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	125	46
Pronghorn	10	20	11
Elk	5	30	158

BLM allotment name:	**PHIPPS CREEK WEST**	Allotment number:	00125
Management category:	C	BLM acres:	1,732
Number of pasture(s):	1	Private acres:	1,404
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	155	Total acres:	3,136
Suspended AUMs:	0		
Total AUMs:	155		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Improve the ecological condition of upland vegetative communities

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	40	16
Pronghorn	25	40	27
Elk	5	15	90

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Phipps Creek (no identified water quality considerations)

BLM allotment name:	**THORN FLAT**	Allotment number:	00127
Management category:	M	BLM acres:	3,439
Number of pasture(s):	2	Private acres:	610
AMP implemented:	1981	State acres:	0
Season of use:	04/01-10/31	Other Federal acres:	0
Active AUMs:	987	Total acres:	4,049
Suspended AUMs:	0		
Total AUMs:	987		

Existing grazing management objectives:
Improve the ecological condition of upland vegetative communities

Additional management emphasis:
None

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	50	23
Pronghorn	35	35	34
Elk	5	25	135

BLM allotment name:	**CHALK BUTTE**	Allotment number:	00128
Management category:	C	BLM acres:	469
Number of pasture(s):	1	Private acres:	1,680
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	65	Total acres:	2,149
Suspended AUMs:	0		
Total AUMs:	65		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Improve the ecological condition of upland vegetative communities

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	15	6
Pronghorn	15	25	16
Elk	0	0	0

BLM allotment name:	**DRY GULCH**	Allotment number:	00129
Management category:	C	BLM acres:	902
Number of pasture(s):	1	Private acres:	1,114
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	62	Total acres:	2,016
Suspended AUMs:	78		
Total AUMs:	140		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	25	9
Pronghorn	5	0	4
Elk	5	5	45

BLM allotment name:	**MALHEUR CITY**	Allotment number:	00130
Management category:	M	BLM acres:	1,167
Number of pasture(s):	1	Private acres:	256
AMP implemented:	1987	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	289	Total acres:	1,423
Suspended AUMs:	39		
Total AUMs:	328		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	5	5
Pronghorn	15	30	17
Elk	10	10	90

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Shasta Gulch (no identified water quality considerations)

BLM allotment name:	**BALDY MOUNTAIN**	Allotment number:	00131
Management category:	M	BLM acres:	3,230
Number of pasture(s):	1	Private acres:	1,140
AMP implemented:	1987	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	520	Total acres:	4,370
Suspended AUMs:	0		
Total AUMs:	520		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	5	17
Pronghorn	25	15	22
Elk	25	25	225

BLM allotment name:	**BULLY CREEK**	**Allotment number:**	**00132**
Management category:	**M**	**BLM acres:**	**5,095**
Number of pasture(s):	**1**	**Private acres:**	**7,281**
AMP implemented:	**1982**	**State acres:**	**0**
Season of use:	**10/15-04/15**	**Other Federal acres:**	**482**
Active AUMs:	**980**	**Total acres:**	**12,858**
Suspended AUMs:	**0**		
Total AUMs:	**980**		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	80	200	65
Pronghorn	25	50	29
Elk	5	5	45

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Bully Creek (water quality assessment stream, water quality limited stream)

Bully Creek Reservoir (water qualitv assessment stream)

BLM allotment name:	**KIVETT**	Allotment number:	00133
Management category:	C	BLM acres:	243
Number of pasture(s):	1	Private acres:	3,188
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	26	Total acres:	3,431
Suspended AUMs:	20		
Total AUMs:	46		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	5	12
Pronghorn	5	0	4
Elk	15	0	68

Special Status fish:

Redband trout

BLM allotment name:	**JUNIPER MOUNTAIN**	Allotment number:	00134
Management category:	C	BLM acres:	788
Number of pasture(s):	1	Private acres:	2,262
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	126	Total acres:	3,050
Suspended AUMs:	0		
Total AUMs:	126		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	5	12
Pronghorn	5	0	4
Elk	15	15	135

BLM allotment name:	**DRY CREEK INDIVIDUAL**	Allotment number:	00135
Management category:	C	BLM acres:	2,058
Number of pasture(s):	280	Private acres:	2,820
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	99	Total acres:	4,878
Suspended AUMs:	181		
Total AUMs:	280		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	*Competitive forage* demand (AUM)
Deer	50	100	35
Pronghorn	15	25	16
Elk	15	30	203

Special Status plants:

Malheur forget-me-not

BLM allotment name:	KING FIELD IND.	Allotment number:	00136
Management category:	C	BLM acres:	1,085
Number of pasture(s):	1	Private acres:	4,995
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	61	Total acres:	6,080
Suspended AUMs:	55		
Total AUMs:	116		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	40	100	33
Pronghorn	10	15	11
Elk	5	5	45

Special Status plants:

Malheur forget-me-not

BLM allotment name:	**PHIPPS CREEK (E)**	Allotment number:	00137
Management category:	C	BLM acres:	601
Number of pasture(s):	1	Private acres:	2,612
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	35	Total acres:	3,213
Suspended AUMs:	49		
Total AUMs:	84		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	34	100	32
Pronghorn	10	50	17
Elk	5	25	135

BLM allotment name:	**BOULDER CREEK**	Allotment number:	00138
Management category:	C	BLM acres:	357
Number of pasture(s):	1	Private acres:	4,994
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	31	Total acres:	5,351
Suspended AUMs:	53		
Total AUMs:	84		

Existing grazing management objectives:
Custodial allotment with no management objective identified

Additional management emphasis:
None

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	70	5	16
Pronghorn	15	0	12
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Milk Ranch Boulder Creek (no identified water quality considerations)
Mill Boulder Creek (no identified water quality considerations)

BLM allotment name:	**PHIPPS CREEK (N)**	Allotment number:	00139
Management category:	M	BLM acres:	3,711
Number of pasture(s):	2	Private acres:	2,572
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	734	Total acres:	6,283
Suspended AUMs:	50		
Total AUMs:	784		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities.

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	100	35
Pronghorn	15	30	17
Elk	15	25	180

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Phipps Creek (no identified water quality considerations)

BLM allotment name:	**ALDER CREEK**	Allotment number:	00143
Management category:	C	BLM acres:	1,241
Number of pasture(s):	5	Private acres:	3,135
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	198	Total acres:	4,376
Suspended AUMs:	0		
Total AUMs:	198		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Improve the ecological condition of upland vegetative communities.

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	5	5
Pronghorn	15	0	12
Elk	25	25	225

BLM allotment name:	**COW CREEK**	Allotment number:	00144
Management category:	C	BLM acres:	2,851
Number of pasture(s):	1	Private acres:	4,766
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	112	Total acres:	7,617
Suspended AUMs:	218		
Total AUMs:	330		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	25	22
Pronghorn	25	25	24
Elk	15	15	135

BLM allotment name:	**BRIDGE CREEK EAST**	Allotment number:	00145
Management category:	C	BLM acres:	952
Number of pasture(s):	2	Private acres:	7,586
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	78	Total acres:	8,538
Suspended AUMs:	87		
Total AUMs:	165		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	95	10	22
Pronghorn	5	0	4
Elk	25	5	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (water quality assessment stream)

BLM allotment name:	**ELDORADO CREEK**	Allotment number:	00146

Management category:	C	BLM acres:	354
Number of pasture(s):	1	Private acres:	1,123
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0

Active AUMs:	31	Total acres:	1,477
Suspended AUMs:	29		
Total AUMs:	60		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	5	5
Pronghorn	15	30	17
Elk	10	10	90

BLM allotment name:	**QUARRY**	Allotment number:	00147
Management category:	C	BLM acres:	79
Number of pasture(s):	1	Private acres:	80
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	2	Total acres:	159
Suspended AUMs:	13		
Total AUMs:	15		

Existing grazing management objectives:

Exclusion of livestock grazing is a proposed action of the SEORMP

Additional management emphasis:

This is not a grazing allotment (the 40-acre parcel is within a Federal Aid Material Site right-of-way)

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	5	0	1
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**BROGAN CANYON**	Allotment number:	00148
Management category:	I	BLM acres:	2,116
Number of pasture(s):	5	Private acres:	1,158
AMP implemented:	1992	State acres:	0
Season of use:	04/01–10/15	Other Federal acres:	0
Active AUMs:	360	Total acres:	3,274
Suspended AUMs:	0		
Total AUMs:	360		

Existing grazing management objectives:

Maintain/improve the condition of riparian vegetative communities

Improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	75	23
Pronghorn	25	25	24
Elk	5	20	113

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (water quality assessment stream, water quality limited stream)

Basin Creek (no identified water quality considerations)

BLM allotment name:	**WHEEL GULCH**	Allotment number:	00149
Management category:	C	BLM acres:	760
Number of pasture(s):	1	Private acres:	1,181
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	22
Active AUMs:	50	Total acres:	1,963
Suspended AUMs:	32		
Total AUMs:	82		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	50	17
Pronghorn	5	15	7
Elk	0	0	0

BLM allotment name:	**BUTTERFIELD SPRING**	Allotment number:	00150
Management category:	C	BLM acres:	594
Number of pasture(s):	1	Private acres:	8,649
AMP implemented:	No	State acres:	398
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	39	Total acres:	9,640
Suspended AUMs:	35		
Total AUMs:	74		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	90	175	62
Pronghorn	10	15	11
Elk	10	10	90

Special Status plants:

Malheur forget-me-not

BLM allotment name:	**CANYON CREEK**	Allotment number:	00151
Management category:	C	BLM acres:	1,211
Number of pasture(s):	1	Private acres:	5,328
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	35	Total acres:	6,539
Suspended AUMs:	25		
Total AUMs:	60		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Maintain ecological condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	50	23
Pronghorn	5	5	5
Elk	5	20	113

BLM allotment name:	**CANAL**	Allotment number:	00152
Management category:	C	BLM acres:	435
Number of pasture(s):	1	Private acres:	1,190
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	19
Active AUMs:	16	Total acres:	1,644
Suspended AUMs:	41		
Total AUMs:	57		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	35	12
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**SOUTH WILLOW CREEK**	Allotment number:	00153
Management category:	C	BLM acres:	1,669
Number of pasture(s):	1	Private acres:	5,148
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	85	Total acres:	6,817
Suspended AUMs:	0		
Total AUMs:	85		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	5	17
Pronghorn	0	0	0
Elk	20	0	90

BLM allotment name:	**SHASTA BUTTE**	Allotment number:	00154
Management category:	C	BLM acres:	236
Number of pasture(s):	1	Private acres:	3,650
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	21	Total acres:	3,886
Suspended AUMs:	40		
Total AUMs:	61		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	40	10	11
Pronghorn	25	0	20
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Shasta Gulch (no identified water quality considerations)

BLM allotment name:	**AGENCY MOUNTAIN**	Allotment number:	00161
Management category:	I	BLM acres:	4,149
Number of pasture(s):	5	Private acres:	3,185
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	879
Active AUMs:	1,400	Total acres:	8,213
Suspended AUMs:	0		
Total AUMs:	1,400		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	92	117	48
Pronghorn	25	0	20
Elk	28	30	262

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

North Fork Malheur River (water quality assessment stream)

Special Status fish:

Bull trout

BLM allotment name:	**CALF CREEK**	Allotment number:	00162
Management category:	I	BLM acres:	18,381
Number of pasture(s):	7	State acres:	0
AMP implemented:	No	Private acres:	2,033
Season of use:	03/01–10/31	Other Federal acres:	0
Active AUMs:	1,793	Total acres:	20,414
Suspended AUMs:	0		
Total AUMs:	1,793		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Maintain/Improve the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives.

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	91	116	47
Pronghorn	0	0	0
Elk	28	30	262

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Warm Springs Creek (no identified water quality considerations)

Cave Canyon (no identified water quality considerations)

Calf Creek (water quality assessment stream)

Special Status fish:

Redband trout

BLM allotment name:	**LOCKHART MOUNTAIN**	Allotment number:	00224
Management category:	C	BLM acres:	1,588
Number of pasture(s):	1	Private acres:	3,668
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	214	Total acres:	5,256
Suspended AUMs:	0		
Total AUMs:	214		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	10	18
Pronghorn	15	0	12
Elk	15	0	68

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Malheur River (water quality assessment stream)

Special Status fish:

Redband trout

BLM allotment name:	**CHUKAR PARK**	Allotment number:	00225
Management category:	C	BLM acres:	544
Number of pasture(s):	1	Private acres:	750
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	61
Active AUMs:	35	Total acres:	1,355
Suspended AUMs:	70		
Total AUMs:	105		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	75	23
Pronghorn	25	0	20
Elk	15	15	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

North Fork Malheur River (water quality assessment stream, water quality limited stream)

BLM allotment name:	**COTTONWOOD CREEK**	Allotment number:	00226
Management category:	C	BLM acres:	853
Number of pasture(s):	1	Private acres:	957
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	68	Total acres:	1,810
Suspended AUMs:	124		
Total AUMs:	192		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	5	6
Pronghorn	10	0	8
Elk	15	10	113

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (water quality assessment stream)

Proposed or existing ACEC:

Ott Mountain (Alternatives C, D)

BLM allotment name:	**WESTFALL**	Allotment number:	00227
Management category:	M	BLM acres:	1,674
Number of pasture(s):	1	Private acres:	4,943
AMP implemented:	1990	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	327	Total acres:	6,617
Suspended AUMs:	0		
Total AUMs:	327		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	25	22
Pronghorn	5	5	45
Elk	10	20	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Clover Creek (water quality assessment stream)

BLM allotment name:	**SCRATCH POST BUTTE**	Allotment number:	00228
Management category:	C	BLM acres:	1,013
Number of pasture(s):	1	Private acres:	8,542
AMP implemented:	No	State acres:	158
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	132	Total acres:	9,713
Suspended AUMs:	0		
Total AUMs:	132		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	65	15	17
Pronghorn	25	0	20
Elk	30	30	270

BLM allotment name:	**ROAD GULCH**	Allotment number:	00229
Management category:	C	BLM acres:	1,366
Number of pasture(s):	1	Private acres:	2,296
AMP implemented:	No	State acres:	3,870
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	12	Total acres:	7,532
Suspended AUMs:	0		
Total AUMs:	12		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Maintain ecological condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	5	6
Pronghorn	5	5	5
Elk	5	10	68

Within bighorn sheep range

BLM allotment name:	**WEST OREGON CANAL**	Allotment number:	00230
Management category:	C	BLM acres:	638
Number of pasture(s):	1	Private acres:	785
AMP implemented:	0	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	46	Total acres:	1,423
Suspended AUMs:	0		
Total AUMs:	46		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Maintain ecological condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	5	4
Pronghorn	5	0	4
Elk	0	0	0

BLM allotment name:	**SQUAW BUTTE**	Allotment number:	00233
Management category:	C	BLM acres:	289
Number of pasture(s):	1	Private acres:	1,914
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	35	Total acres:	2,203
Suspended AUMs:	32		
Total AUMs:	67		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	5	6
Pronghorn	5	0	4
Elk	10	0	45

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Malheur River (water quality assessment stream)

Special Status fish:

Redband trout

BLM allotment name:	**POST CREEK**	Allotment number:	00244
Management category:	C	BLM acres:	816
Number of pasture(s):	1	Private acres:	4,292
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	98	Total acres:	5,108
Suspended AUMs:	222		
Total AUMs:	320		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	5	12
Pronghorn	15	0	12
Elk	10	0	45

BLM allotment name:	**HARPER**	Allotment number:	00301
Management category:	I	BLM acres:	55,463
Number of pasture(s):	6	Private acres:	2,394
AMP implemented:	No	State acres:	0
Season of use:	04/01-10/31	Other Federal acres:	445
Active AUMs:	4,809	Total acres:	58,302
Suspended AUMs:	1,130		
Total AUMs:	5,939		

Existing grazing management objectives:

Maintain/improve the condition of riparian vegetative communities
Maintain/improve the ecological condition of upland vegetative communities
Protect facilities through livestock exclusion

Additional management emphasis:

Camp Creek Group WSAs
Upland condition
Riparian Condition
Antelope/deer range
Sage grouse habitat
Redband trout

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	150	57
Pronghorn	35	35	34
Elk	25	25	225

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Malheur River (water quality assessment stream, water quality limited stream)
Simmons Gulch (no identified water quality considerations)
South Fork Squaw Creek (no identified water quality considerations)
North Fork Squaw Creek (water quality assessment stream)
Spring Creek (no identified water quality considerations)
Squaw Creek (no identified water quality considerations)
Cottonwood Creek (water quality assessment stream)
Wildcat Creek (no identified water quality considerations)
Keeney Creek (no identified water quality considerations)
Gold Creek (water quality assessment stream)

Special Status fish:
Redband trout

Proposed or existing ACEC:
Lake Ridge (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:
Cottonwood Creek-(Alternative D)

BLM allotment name:	**TURNBULL**	Allotment number:	00303
Management category:	M	BLM acres:	80,147
Number of pasture(s):	6	Private acres:	26,206
AMP implemented:	1988	State acres:	0
Season of use:	04/01–01/31	Other Federal acres:	345
Active AUMs:	6,964	Total acres:	106,698
Suspended AUMs:	0		
Total AUMs:	6,964		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee River ACEC
Cedar Mountain WSA
Lower Owyhee WSA
Owyhee NWSR

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	175	275	108
Pronghorn	100	115	99
Elk	10	10	90

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Butte Creek Tributary No. 1 (no identified water quality considerations)
Burnt Flat Creek (no identified water quality considerations)
Jackson Creek (no identified water quality considerations)
Owyhee River (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**BLACK BUTTE**	Allotment number:	00304
Management category:	I	BLM acres:	47,586
Number of pasture(s):	15	Private acres:	3,208
AMP implemented:	1992	State acres:	1,642
Season of use:	04/01–10/31	Other Federal acres:	858
Active AUMs:	5,779	Total acres:	53,295
Suspended AUMs:	0		
Total AUMs:	5,779		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain/improve the quality of deer/antelope winter range

Additional management emphasis:

Provide riparian habitat for wildlife

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	500	205
Pronghorn	15	100	30
Elk	25	25	225

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

North Fork Malheur River (water quality assessment stream)

Malheur River (water quality assessment stream, water quality limited stream

South Fork Malheur River (water quality limited stream)

Special Status plants:

Biddle's lupine

Administratively suitable National Wild and Scenic Rivers:

Malheur River (Alternative D)

BLM allotment name:	**BRIDGE CREEK**	Allotment number:	00305
Management category:	M	BLM acres:	13,697
Number of pasture(s):	4	Private acres:	1,628
AMP implemented:	1973	State acres:	70
Season of use:	04/01–11/30	Other Federal acres:	0
Active AUMs:	1,178	Total acres:	15,395
Suspended AUMs:	0		
Total AUMs:	1,178		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	375	133
Pronghorn	20	50	25
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Malheur River (water quality assessment stream, water quality limited stream)

Bull Canyon (no identified water quality considerations)

Administratively suitable National Wild and Scenic Rivers:

Malheur River (Alternative D)

BLM allotment name:	**JONESBORO**	Allotment number:	00306
Management category:	I	BLM acres:	19,978
Number of pasture(s):	11	Private acres:	5,115
AMP implemented:	1985	State acres:	119
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	2,661	Total acres:	25,211
Suspended AUMs:	0		
Total AUMs:	2,661		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range
Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Camp Creek Group WSAs
Deer/antelope winter range
Upland ecological condition
Riparian
Redband trout
Sage grouse

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	500	164
Pronghorn	35	35	34
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Hunter Creek (water quality assessment stream)
Canyon Creek (no identified water quality considerations)
Dinner Creek (no identified water quality considerations)
Malheur River (water quality assessment stream, water quality limited stream)

Special Status fish:

Redband trout

Administratively suitable National Wild and Scenic Rivers:

Canyon Creek (Alternative D)

BLM allotment name:	**BONEY BASIN**	Allotment number:	00307
Management category:	M	BLM acres:	16,036
Number of pasture(s):	3	Private acres:	5,227
AMP implemented:	1990	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	15
Active AUMs:	2,662	Total acres:	21,278
Suspended AUMs:	0		
Total AUMs:	2,662		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	350	127
Pronghorn	15	15	14
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Chalk Canyon (no identified water quality considerations)

Conroy Canyon (no identified water quality considerations)

Hunter Creek (water quality assessment stream)

Malheur River (water quality assessment stream)

Special Status fish:

Redband trout

Proposed or existing ACEC:

South Bull Canyon (Alternatives A, C, D)

BLM allotment name:	**BUTTE**	Allotment number:	00308
Management category:	M	BLM acres:	27,307
Number of pasture(s):	7	Private acres:	1,192
AMP implemented:	1985	State acres:	128
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	2,056	Total acres:	28,627
Suspended AUMs:	0		
Total AUMs:	2,056		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots

Additional management emphasis:

Upland conditions
Riparian
Deer/antelope winter range
Sage grouse

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	200	80
Pronghorn	35	35	34
Elk	10	10	90

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (water quality assessment stream)
Squaw Creek (no identified water quality considerations)
Butte Creek (no identified water quality considerations)
Malheur River (water quality assessment stream)
Dry Creek (water quality assessment stream)

Special Status plants:

Harper Valley fiddleneck

Special Status fish:

Redband trout

Proposed or existing ACEC:

Dry Creek Gorge (Alternative D)

BLM allotment name:	**SOUTH STAR MTN**	Allotment number:	00309
Management category:	I	BLM acres:	49,757
Number of pasture(s):	9	Private acres:	7,323
AMP implemented:	1991	State acres:	0
Season of use:	04/01–01/31	Other Federal acres:	0
Active AUMs:	5,394	Total acres:	57,080
Suspended AUMs:	0		
Total AUMs:	5,394		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities
Maintain the integrity of research and study plots
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	200	132
Pronghorn	75	25	63
Elk	25	25	225

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Crowley Creek (no identified water quality considerations)
Lower Crowley Creek (no identified water quality considerations)
Lower Crowley Creek Tributary No. 1 (no identified water quality considerations)
Road Canyon (no identified water quality considerations)
Granite Creek (no identified water quality considerations)

Special Status plants:

Barren Valley collumia

BLM allotment name:	**NORTH STAR MTN**	Allotment number:	00310
Management category:	M	BLM acres:	91,702
Number of pasture(s):	9	Private acres:	6,319
AMP implemented:	1987	State acres:	3,788
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	9,030	Total acres:	101,809
Suspended AUMs:	0		
Total AUMs:	9,030		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Custodial allotment with no management objective identified

Additional management emphasis:

Cold Springs HMA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	125	114
Pronghorn	125	25	102
Elk	15	15	135

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Skull Creek (no identified water quality considerations)
Butte Creek Tributary No. 1 (no identified water quality considerations)
Cold Spring Creek (no identified water quality considerations)
Cold Spring Creek Tributary No. 1 (no identified water quality considerations)
Wildcat Creek (no identified water quality considerations)
Wildcat Creek Tributary No. 1 (no identified water quality considerations)
Dry Creek (water quality assessment stream)
Malheur River (water quality assessment stream, water quality limited stream)

Special Status plants:

Golden buckwheat

Special Status fish:

Redband trout

Administratively suitable National Wild and Scenic Rivers:

Malheur River (Alternative D)

BLM allotment name:	**NORTH HARPER**	Allotment number:	00402
Management category:	M	BLM acres:	28,928
Number of pasture(s):	19	Private acres:	2,396
AMP implemented:	1982	State acres:	0
Season of use:	04/01–09/30	Other Federal acres:	209
Active AUMs:	4,208	Total acres:	31,533
Suspended AUMs:	0		
Total AUMs:	4,208		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Maximize the availability of fall green-up within seedings for winter deer/antelope use

Some pastures containing private land are managed custodial with no management objective identified

Maintain the integrity of research and study plots

Protect facilities through livestock exclusion

Additional management emphasis:

Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	40	60	23
Pronghorn	75	75	72
Elk	0	0	0

Special Status plants:

Malheur forget-me-not

Mulford's milkvetch

Proposed or existing ACEC:

Oregon Trail (Alternatives A, C, D, E)

BLM allotment name:	**WALLROCK**	Allotment number:	00405
Management category:	M	BLM acres:	87,014
Number of pasture(s):	7	Private acres:	676
AMP implemented:	1990	State acres:	81
Season of use:	03/01–02/28	Other Federal acres:	4,035
Active AUMs:	6,656	Total acres:	91,807
Suspended AUMs:	0		
Total AUMs:	6,656		

Existing grazing management objectives:
- Maintain/improve the ecological condition of upland vegetative communities
- Maintain/improve the quality of deer/antelope winter range
- Some pastures containing private land are managed custodial with no management objective identified
- Maintain the integrity of research and study plots

Additional management emphasis:
- Dry Creek WSA
- Dry Creek Buttes WSA
- Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	300	115
Pronghorn	80	100	80
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Dry Creek (water quality assessment)
- Juniper Creek (no identified water quality considerations)
- Owyhee River (water quality assessment stream)

Special Status plants:
- Sterile milkvetch
- Cusick's chaenactis

Special Status fish:
- Redband trout

Proposed or existing ACEC:
  Dry Creek Gorge (Alternatives C, D)
  Owyhee Views (Alternatives C, D)
  Sand Hammond Hills (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:
  Dry Creek (Alternatives C, D)

BLM allotment name:	**VALE BUTTE (S)**	Allotment number:	00413
Management category:	C	BLM acres:	278
Number of pasture(s):	1	Private acres:	0
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	36	Total acres:	278
Suspended AUMs:	36		
Total AUMs:	72		

Existing grazing management objectives:
Custodial allotment with no management objective identified

Additional management emphasis:
Ecological condition of upland vegetative communities

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	25	9
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**GORDON GULCH**	Allotment number:	00513
Management category:	I	BLM acres:	1,771
Number of pasture(s):	1	Private acres:	0
AMP implemented:	No	State acres:	0
Season of use:	10/01–12/01; 02/01–05/01	Other Federal acres:	42
Active AUMs:	161	Total acres:	1,813
Suspended AUMs:	119		
Total AUMs:	0		

Existing grazing management objectives:
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:
Wildhorse Basin WSA

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	75	26
Pronghorn	15	0	12
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Birch Creek (no identified water quality considerations)
Indian Creek (no identified water quality considerations)

Proposed or existing ACEC:
Owyhee Views (Alternatives C, D)

BLM allotment name:	**JAMIESON**	**Allotment number:**	10106
Management category:	C	**BLM acres:**	82
Number of pasture(s):	1	**Private acres:**	281
AMP implemented:	No	**State acres:**	0
Season of use:	Undefined	**Other Federal acres:**	0
Active AUMs:	5	**Total acres:**	363
Suspended AUMs:	19		
Total AUMs:	24		

Existing grazing management objectives:

Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	40	15
Pronghorn	0	20	4
Elk	5	20	113

BLM allotment name:	**GROVE ROAD**	Allotment number:	10107
Management category:	C	BLM acres:	397
Number of pasture(s)::	1	Private acres:	4,365
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	22	Total acres:	4,762
Suspended AUMs:	42		
Total AUMs:	64		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	100	35
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**BECKER CREEK**	Allotment number:	10117
Management category:	C	BLM acres:	3,374
Number of pasture(s):	1	Private acres:	10,863
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	92	Total acres:	14,237
Suspended AUMs:	475		
Total AUMs:	567		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	130	115	79
Pronghorn	40	70	44
Elk	40	40	360

Special Status plants:

Snake River goldenweed

BLM allotment name:	**COTTONWOOD CREEK**	Allotment number:	10140
Management category:	1	BLM acres:	738
Number of pasture(s):	1	Private acres:	623
AMP implemented:	1990	State acres:	0
Season of use:	11/01–11/30	Other Federal acres:	0
Active AUMs:	38	Total acres:	1,361
Suspended AUMs:	49		
Total AUMs:	87		

Existing grazing management objectives:
- Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:
- Upland vegetation condition
- Allotment is included in the Cottonwood Mountain AMP (20102)

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	125	41
Pronghorn	5	10	6
Elk	5	30	158

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Cottonwood Creek (no identified water quality considerations)

BLM allotment name:	**FERRIERS GULCH**	Allotment number:	10141
Management category:	C	BLM acres:	354
Number of pasture(s):	1	Private acres:	4,232
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	28	Total acres:	4,586
Suspended AUMs:	26		
Total AUMs:	54		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	45	5	11
Pronghorn	15	0	12
Elk	10	0	45

BLM allotment name:	**IRONSIDE SCHOOL**	Allotment number:	10142
Management category:	C	BLM acres:	79
Number of pasture(s):	1	Private acres:	1,254
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	4	Total acres:	1,333
Suspended AUMs:	0		
Total AUMs:	4		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	10	9
Pronghorn	15	0	12
Elk	5	5	45

BLM allotment name:	**ALLOTMENT #2**	Allotment number:	10201
Management category:	I	BLM acres:	48,499
Number of pasture(s):	20	Private acres:	7,665
AMP implemented:	1994	State acres:	0
Season of use:	04/01-10/31	Other Federal acres:	371
Active AUMs:	7,480	Total acres:	56,535
Suspended AUMs:	1,320		
Total AUMs:	8,800		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Maintain the integrity of enclosures constructed for wildlife benefits

Additional management emphasis:

Allotment has not been grazed at full authorized levels for several years

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	400	139
Pronghorn	10	40	15
Elk	15	50	293

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (water quality assessment stream)

NG Creek (water quality assessment stream)

East Prong Dry Creek (no identified water quality considerations)

Bully Creek (water quality assessment stream, water quality limited stream)

BLM allotment name:	**ALLOTMENT #3**	Allotment number:	10202
Management category:	I	BLM acres:	77,695
Number of pasture(s):	9	Private acres:	15,116
AMP implemented:	1993	State acres:	94
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	13,480	Total acres:	92,906
Suspended AUMs:	607		
Total AUMs:	14,087		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Some pastures containing private land are managed custodial with no management objective identified
Protect facilities through livestock exclusion

Additional management emphasis:

Does not have a current grazing system developed
AMP implemented: needs to be revised and grazing system needs to be developed

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	600	300	199
Pronghorn	50	0	39
Elk	30	50	360

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (water quality assessment stream)
South Fork Cottonwood Creek (no identified water quality considerations)
West Fork Cottonwood Creek (no identified water quality considerations)
Indian Creek (no identified water quality considerations)
Sw Creek (no identified water quality considerations)
South Fork Indian Creek (water quality assessment stream)
South Fork Indian Creek
  Tributary No. 1 (no identified water quality considerations)
Pole Creek (water quality assessment stream)
South Fork Indian Creek
  Tributary No. 2 (no identified water quality considerations)

Special Status fish:
Redband trout

Administratively suitable National Wild and Scenic Rivers:
Black Canyon Creek (Alternative D)
South Fork Indian Creek (Alternative D)

BLM allotment name:	**ALLOTMENT #4**	Allotment number:	10203
Management category:	M	BLM acres:	57,105
Number of pasture(s):	11	Private acres:	499
AMP implemented:	1985	State acres:	93
Season of use:	04/01–10/31	Other Federal acres:	693
Active AUMs:	5,502	Total acres:	58,390
Suspended AUMs:	0		
Total AUMs:	5,502		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maximize the availability of fall green-up within seedings for winter deer/antelope use
Maintain/improve the quality of deer/antelope winter range
Protect facilities through livestock exclusion
Maintain/improve the condition of riparian vegetative communities
Maintain the integrity of research and study plots

Additional management emphasis:

Hog Creek HMA
Seeding condition
Riparian (has Creek & Black Canyon)
Redband trout habitat
Sage grouse habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	600	209
Pronghorn	55	45	51
Elk	25	45	315

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Oregon Canal (no identified water quality considerations)
South Fork Cottonwood Creek (no identified water quality considerations)
Hog Creek (water quality assessment stream)
Black Canyon (no identified water quality considerations)
Malheur River (water quality limited stream)
Spring Creek (no identified water quality considerations)
Willow Creek (no identified water quality considerations)
Miller Creek (no identified water quality considerations)

Special Status plants:
Harper Valley fiddleneck

Special Status fish:
Redband trout

Proposed or existing ACEC:
Black Canyon (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:
Black Canyon Creek - (Alternative D)

BLM allotment name:	**ALLOTMENT #6**	Allotment number:	10204
Management category:	M	BLM acres:	6,824
Number of pasture(s):	2	Private acres:	356
AMP implemented:	1986	State acres:	0
Season of use:	03/15-05/15; 09/01-11/15	Other Federal acres:	311
Active AUMs:	1,201	Total acres:	7,491
Suspended AUMs:	339		
Total AUMs:	1,540		

Existing grazing management objectives:

Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Upland condition (improve for deer range)

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	200	80
Pronghorn	5	0	4
Elk	10	20	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Malheur River (water quality assessment stream, water quality limited stream)

BLM allotment name:	**RAIL CANYON**	Allotment number:	10205
Management category:	I	BLM acres:	22,641
Number of pasture(s):	10	Private acres:	3,879
AMP implemented:	1995	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	3,023	Total acres:	26,520
Suspended AUMs:	0		
Total AUMs:	3,023		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

Beaver Dam WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	25	58
Pronghorn	5	0	4
Elk	30	0	135

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

North Fork Bully Creek (no identified water quality considerations)
Godding Creek (no identified water quality considerations)
Kitten Canyon (no identified water quality considerations)
McArthur Creek (no identified water quality considerations)
South Clover Creek (no identified water quality considerations)
Steamboat Creek (no identified water quality considerations)
Clover Creek (no identified water quality considerations)
Rail Canyon (no identified water quality considerations)
Rail Canyon Tributary No. 1 (no identified water quality considerations)
Clover Creek Tributary No. 1 (no identified water quality considerations)
Clover Creek Tributary No. 2 (no identified water quality considerations)
Bully Creek (water quality assessment stream, water quality limited stream)
McArthur Creek Tributary No. 1 (no identified water quality considerations)

Special Status fish:

Redband trout

BLM allotment name:	**DEARMOND-MURPHY**	Allotment number:	10206
Management category:	M	BLM acres:	35,980
Number of pasture(s):	26	Private acres:	10,470
AMP implemented:	1986	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	122
Active AUMs:	6,503	Total acres:	46,572
Suspended AUMs:	0		
Total AUMs:	6,503		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Some pastures containing private land are managed custodial with no managment objective identified

Protect facilities through livestock exclusion

Maintain the integrity of research and study plots

Additional management emphasis:

Castle Rock WSA

Working with Forest Service in Coordinated Resource Management Plan with similar goals and objectives

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	450	300	167
Pronghorn	35	0	27
Elk	30	50	360

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Warm Springs Creek (no identified water quality considerations)

Bendire Creek (no identified water quality considerations)

Hunter Creek (no identified water quality considerations)

Hunter Creek Tributary No. 1 (no identified water quality considerations)

Lost Creek (water quality assessment stream)

Proposed or existing ACEC:

Castle Rock (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:

North Fork Malheur–(Alternatives B, C, D)

BLM allotment name:	**RING BUTTE**	**Allotment number:**	**10208**
Management category:	**C**	**BLM acres:**	**394**
Number of pasture(s):	**2**	**Private acres:**	**2,799**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**32**	**Total acres:**	**3,193**
Suspended AUMs:	**73**		
Total AUMs:	**105**		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

→ Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**100**	**5**	**22**
Pronghorn	**10**	**0**	**8**
Elk	**20**	**0**	**90**

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Malheur River (water quality assessment stream)

Special Status fish:

Redband trout

BLM allotment name:	**OREGON CANAL**	Allotment number:	10209
Management category:	C	BLM acres:	1,288
Number of pasture(s):	1	Private acres:	1,945
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	166
Active AUMs:	94	Total acres:	3,399
Suspended AUMs:	0		
Total AUMs:	94		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	50	17
Pronghorn	0	5	1
Elk	0	0	0

BLM allotment name:	**CLOVER CREEK INDIV**	Allotment number:	10210
Management category:	C	BLM acres:	3,459
Number of pasture(s):	1	Private acres:	12,937
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	248	Total acres:	16,396
Suspended AUMs:	205		
Total AUMs:	453		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	25	38
Pronghorn	15	0	12
Elk	30	30	270

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Clover Creek (water quality assessment stream)

Clover Creek Tributary No. 1 (no identified water quality considerations)

Special Status fish:

Redband trout

BLM allotment name:	**CASTLE ROCK**	Allotment number:	10211
Management category:	I	BLM acres:	19,820
Number of pasture(s):	15	Private acres:	10,131
AMP implemented:	1993	State acres:	0
Season of use:	03/20-11/15	Other Federal acres:	0
Active AUMs:	4,816	Total acres:	29,951
Suspended AUMs:	0		
Total AUMs:	4,816		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Protect facilities through livestock exclusion

Additional management emphasis:

Castle Rock WSA, Beaver Dam WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	125	175	69
Pronghorn	10	0	8
Elk	85	0	383

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Lost Creek (water quality assessment stream)

North Fork Malheur River (water quality assessment stream, water quality limited stream)

Little Malheur River (water quality assessment stream, water quality limited stream)

Special Status fish:

Redband trout

Bull trout

Proposed or existing ACEC:

Castle Rock (Alternatives A, C, D)

North Fork Malheur River (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:

North Fork Malheur (Alternatives B, C, D)

BLM allotment name:	**BUTTE TREE**	Allotment number:	10212
Management category:	C	BLM acres:	617
Number of pasture(s):	1	Private acres:	1,300
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	69	Total acres:	1,917
Suspended AUMs:	54		
Total AUMs:	123		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	10	10
Pronghorn	5	0	4
Elk	20	0	90

BLM allotment name:	**WEST CLOVER CREEK**	Allotment number:	10213

Management category:	C	BLM acres:	2,713
Number of pasture(s):	1	Private acres:	7,520
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0

Active AUMs:	235	Total acres:	10,233
Suspended AUMs:	200		
Total AUMs:	435		

Existing grazing management objectives:
Custodial allotment with no management objective identified

Additional management emphasis:
Beaver Dam WSA
35 AUM is being transferred to Rick Wilcox (new allotment name and file is being developed)

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	25	38
Pronghorn	35	0	27
Elk	30	10	180

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Clover Creek (water quality assessment stream)

Special Status fish:
Redband trout

BLM allotment name:	**RICHIE FLAT**	Allotment number:	10214
Management category:	I	BLM acres:	17,506
Number of pasture(s):	8	Private acres:	2,233
AMP implemented:	1994	State acres:	0
Season of use:	04/01–11/15	Other Federal acres:	0
Active AUMs:	3,168	Total acres:	19,739
Suspended AUMs:	381		
Total AUMs:	3,549		

Existing grazing management objectives:
- Maximize the availability of fall green-up for winter deer/antelope use
- Improve the ecological condition of upland vegetative communities
- Maintain/improve the condition of riparian vegetative communities
- Maintain/improve the quality of deer/antelope winter range
- Some pastures containing private land are managed custodial with no management objective identified
- Maintain the integrity of research and study plots

Additional management emphasis:
- Class of livestock has changed from cattle to sheep

Additional management considerations with implementation of proposed RMP alternatives:
- Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	40	120	38
Pronghorn	20	25	20
Elk	5	10	68

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Clover Creek (water quality assessment stream)
- Clover Creek Tributary No. 1 (no identified water quality considerations)
- Birch Creek (no identified water quality considerations)
- Deep Creek (no identified water quality considerations)
- Deep Creek Tributary No. 1 (no identified water quality considerations)
- Log Creek (no identified water quality considerations)
- Reds Creek (no identified water quality considerations)

Special Status fish:
- Redband trout

Proposed or existing ACEC:
- South Ridge Bully Creek (Alternatives A, C D)
- North Ridge Bully Creek (Alternatives A, C, D)

BLM allotment name:	**BRIAN CREEK**	Allotment number:	10215
Management category:	M	BLM acres:	4,816
Number of pasture(s):	3	Private acres:	90
AMP implemented:	1995	State acres:	0
Season of use:	04/01–11/15	Other Federal acres:	0
Active AUMs:	1,090	Total acres:	4,907
Suspended AUMs:	0		
Total AUMs:	1,090		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	5	15	1
Pronghorn	15	10	14
Elk	5	10	68

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Brady Creek (no identified water quality considerations)

Brady Creek Trib. No. 1 (no identified water quality considerations)

Brian Creek (no identified water quality considerations)

Reds Creek (no identified water quality considerations)

Special Status fish:

Redband trout

BLM allotment name:	**WHITLEY CANYON**	Allotment number:	10216
Management category:	M	BLM acres:	14,511
Number of pasture(s):	6	Private acres:	3,409
AMP implemented:	1988	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	143
Active AUMs:	2,376	Total acres:	18,063
Suspended AUMs:	0		
Total AUMs:	2,376		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Maintain the ecological condition of upland vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

Little Malheur Pasture mostly private along river; however, managing pasture under riparian objectives

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	150	57
Pronghorn	5	0	4
Elk	45	20	293

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Malheur River (water quality assessment stream, water quality limited stream)

Special Status fish:

Redband trout

Proposed or existing ACEC:

North Fork Malheur River (Alternatives A, C, D)

BLM allotment name:	**BEULAH RESERVOIR**	Allotment number:	10217
Management category:	I	BLM acres:	11,983
Number of pasture(s):	34	Private acres:	6,581
AMP implemented:	1991	State acres:	0
Season of use:	03/15–10/31	Other Federal acres:	9
Active AUMs:	2,560	Total acres:	18,753
Suspended AUMs:	0		
Total AUMs:	2,560		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain/improve the quality of deer/antelope winter range

Maintain/improve the condition of riparian vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	92	117	48
Pronghorn	0	0	0
Elk	29	30	264

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Malheur River North Fork (water quality assessment stream, water quality limited stream)

Cottonwood Creek (water quality assessment stream)

Special Status fish:

Redband trout

Bull trout

Proposed or existing ACEC:

Ott Mountain (Alternatives A, C, D)

North Fork Malheur River (Alternatives A, C, D)

BLM allotment name:	**BUCKBRUSH**	Allotment number:	10218
Management category:	I	BLM acres:	20,072
Number of pasture(s):	7	Private acres:	960
AMP implemented:	1995	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	2,797	Total acres:	21,032
Suspended AUMs:	462		
Total AUMs:	2,259		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

Develop wildlife objective

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	75	50
Pronghorn	10	15	11
Elk	5	15	90

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

East Prong Dry Creek (no identified water quality considerations)

BLM allotment name:	**MALHEUR RIVER**	Allotment number:	10219
Management category:	C	BLM acres:	819
Number of pasture(s):	2	Private acres:	2,464
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	53	Total acres:	3,283
Suspended AUMs:	117		
Total AUMs:	170		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Maintain/improve the condition of riparian vegetative communities.

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	50	18
Pronghorn	5	0	4
Elk	5	0	23

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Malheur River (water quality assessment stream, water quality limited stream)

Special Status fish:

Redband trout

BLM allotment name:	**WILLOW BASIN**	Allotment number:	10222
Management category:	I	BLM acres:	43,455
Number of pasture(s):	10	Private acres:	6,540
AMP implemented:	1995	State acres:	0
Season of use:	04/01–11/30	Other Federal acres:	0
Active AUMs:	7,006	Total acres:	49,995
Suspended AUMs:	1,117		
Total AUMs:	8,123		

Existing grazing management objectives:
Improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:
Beaver Dam WSA

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game managment objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	100	108
Pronghorn	5	25	8
Elk	5	15	90

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Indian Creek (no identified water quality considerations)
North Fork Indian Creek (no identified water quality considerations)
South Fork Indian Creek Tributary No. 2 (no identified water quality considerations)
North Fork Bully Creek (no identified water quality considerations)
Bendire Creek (no identified water quality considerations)
Willow Basin Creek (no identified water quality considerations)
Willow Basin Creek Tributary No. 1 (no identified water quality considerations)
Beaver Dam Creek (no identified water quality considerations)
Bully Creek (water quality assessment stream, water quality limited stream)
Godding Creek (no identified water quality considerations)
McArthur Creek (no identified water quality considerations)
North Bully Creek (no identified water quality considerations)
Puckett Creek (no identified water quality considerations)
Puckett Creek Tributary No. 1 (no identified water quality considerations)
South Bully Creek (no identified water quality considerations)

South Bully Creek Tributary No. 1 (no identified water quality considerations)
Whiskey Gulch (no identified water quality considerations)
North Bully Creek (no identified water quality considerations)
Cottonwood Creek (water quality assessment stream)

Special Status fish:
Redband trout

Proposed or existing ACEC:
Castle Rock (Alternative D)

BLM allotment name:	LAVA RIDGE	Allotment number:	10223
Management category:	I	BLM acres:	11,069
Number of pasture(s):	6	Private acres:	1,222
AMP implemented:	1991	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	1,722	Total acres:	12,291
Suspended AUMs:	0		
Total AUMs:	1,722		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Maximize the availability of fall green-up for winter deer/antelope use

Maintain/improve the condition of riparian vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	50	33
Pronghorn	5	25	8
Elk	10	25	158

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Clover Creek (no identified water quality considerations)

Deep Creek (no identified water quality considerations)

Deep Creek Tributary No. 1 (no identified water quality considerations)

Hay Canyon (no identified water quality considerations)

Bully Creek (water quality assessment stream, water quality limited stream)

North Fork Bully Creek (no identified water quality considerations)

Proposed or existing ACEC:

South Ridge Bully Creek (Alternatives A, C, D)

North Ridge Bully Creek (Alternatives A, C, D)

BLM allotment name:	**BULLY RESERVOIR**	Allotment number:	10224
Management category:	C	BLM acres:	640
Number of pasture(s):	1	Private acres:	1,922
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	80
Active AUMs:	74	Total acres:	2,642
Suspended AUMs:	0		
Total AUMs:	74		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

Allotment not delineated in GIS (acreage is estimated)

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	25	11
Pronghorn	5	5	5
Elk	15	5	90

BLM allotment name:	**RED HILLS**	Allotment number:	10302
Management category:	I	BLM acres:	51,477
Number of pasture(s):	6	Private acres:	4,390
AMP implemented:	1992	State acres:	5,348
Season of use:	04/01 -10/31	Other Federal acres:	0
Active AUMs:	3,982	Total acres:	61,215
Suspended AUMs:	918		
Total AUMs:	4,900		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Protect facilities through livestock exclusion

Additional management emphasis:

Camp Creek Group WSAs

Redband trout

Sage grouse habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	500	185
Pronghorn	70	40	62
Elk	25	25	225

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (water quality assessment stream, water quality limited stream)

Long Creek (no identified water quality considerations)

Tims Creek (no identified water quality considerations)

Wildcat Creek (no identified water quality considerations)

Dry Creek (water quality assessment stream)

Special Status plants:

Golden buckwheat

Special Status fish:

Redband trout

Proposed or existing ACEC:
Lake Ridge (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:
Cottonwood Creek (Alternative D)

BLM allotment name:	**KEENEY CREEK**	Allotment number:	10401
Management category:	I	BLM acres:	59,439
Number of pasture(s):	17	Private acres:	4,337
AMP implemented:	No	State acres:	4,632
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	7,119	Total acres:	68,407
Suspended AUMs:	0		
Total AUMs:	7,119		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range
Maintain/improve the ecological condition of upland vegetative communities
Maximize the availability of fall green-up for winter deer/antelope use
Maintain/improve the condition of riparian vegetative communities
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots

Additional management emphasis:

Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	50	33
Pronghorn	80	80	77
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cabin Creek (Malheur River Tributary No. 1) (no identified water quality considerations)
Basin Creek (no identified water quality considerations)
Keeney Creek (no identified water quality considerations)
Cottonwood Creek (water quality assessment stream, water quality limited stream)

Special Status plants:

Biddle's lupine

Special Status fish:

Redband trout

BLM allotment name:	**NYSSA**	Allotment number:	10403
Management category:	I	BLM acres:	67,865
Number of pasture(s):	16	Private acres:	778
AMP implemented:	1995	State acres:	0
Season of use:	04/01 - 10/31	Other Federal acres:	8,310
Active AUMs:	5,882	Total acres:	76,955
Suspended AUMs:	0		
Total AUMs:	5,882		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maximize the availability of fall green-up for winter deer/antelope use
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Seeding condition
Sage grouse habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	50	16
Pronghorn	55	60	54
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Rock Spring Canyon (no identified water quality considerations)
Owyhee River (water quality assessment stream, water quality limited stream)
Fletcher Gulch (water quality assessment stream)

Special Status plants:

Biddle's lupine
Solitary milkvetch
Malheur forget-me-not
Cusick's chaenactis

Special Status fish:

Redband trout

Proposed or existing ACEC:
Owyhee below the Dam (Alternatives C, D)
Dry Creek Gorge (Alternatives C, D)
Owyhee Views (Alternatives C, D)

Administratively suitable National Wild and Scenic Rivers:
Owyhee River-(Alternatives A, B, C, D)

BLM allotment name:	**FREEZEOUT**	Allotment number:	10404
Management category:	M	BLM acres:	129,984
Number of pasture(s):	25	Private acres:	12,193
AMP implemented:	1989	State acres:	2,701
Season of use:	04/01–10/31	Other Federal acres:	147
Active AUMs:	11,590	Total acres:	145,024
Suspended AUMs:	0		
Total AUMs:	11,590		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maximize the availability of fall green-up within seedings for winter deer/antelope use
Maintain/improve the condition of riparian vegetative communities
Maintain/improve the quality of deer/antelope winter range
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots

Additional management emphasis:

Dry Creek WSA
Seeding condition
Riparian condition (Dry Creek, Negro Rock Canyon)
Sage grouse
Deer and antelope winter range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	50	65
Pronghorn	80	80	77
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Negro Rock Canyon (no identified water quality considerations)
Twin Springs Creek Tributary No. 1 (no identified water quality considerations)
Dry Creek (water quality assessment stream)
Lower Owyhee (water quality assessment stream)

Special Status plants:

Biddle's lupine
Malheur forget-me-not
Mulford's milkvetch

Special Status fish:
Redband trout

Proposed or existing ACEC:
Dry Creek Gorge

Administratively suitable National Wild and Scenic Rivers:
Dry Creek (Alternatives C, D)

BLM allotment name:	**QUARTZ MOUNTAIN**	Allotment number:	10406
Management category:	M	BLM acres:	92,886
Number of pasture(s):	6	Private acres:	6,730
AMP implemented:	No	State acres:	485
Season of use:	06/15-04/15	Other Federal acres:	9,093
Active AUMs:	7,476	Total acres:	109,195
Suspended AUMs:	0		
Total AUMs:	7,476		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Maintain/improve the quality of deer/antelope winter range

Additional management emphasis:

Dry Creek Buttes WSA, Cedar Mountain WSA, Owyhee Breaks WSA, Lower Owyhee WSA
Owyhee River ACEC
Owyhee NWSR
Riparian condition (Owyhee River)

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	300	136
Pronghorn	50	50	48
Elk	15	15	135

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (water quality assessment stream)

Special Status plants:

Sterile milkvetch
Cusick's chaenactis

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee Views (Alternatives C, D)
Owyhee River (Alternative B)

BLM allotment name:	**LITTLE VALLEY**	Allotment number:	10407
Management category:	M	BLM acres:	14,392
Number of pasture(s):	7	Private acres:	1,557
AMP implemented:	1988	State acres:	0
Season of use:	04/01-12/31	Other Federal acres:	0
Active AUMs:	1,373	Total acres:	15,949
Suspended AUMs:	0		
Total AUMs:	1,373		

Existing grazing management objectives:
Improve the ecological condition of upland vegetative communities

Additional management emphasis:
Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	60	25
Pronghorn	25	50	29
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Cabin Creek (Malheur River Tributary No. 1) (no identified water quality considerations)

Special Status plants:
Malheur forget-me-not
Biddle's lupine
Mulford's milkvetch

BLM allotment name:	**MITCHELL BUTTE**	Allotment number:	10408
Management category:	C	BLM acres:	2,778
Number of pasture(s):	2	Private acres:	158
AMP implemented:	No	State acres:	0
Season of use:	05/01–08/31	Other Federal acres:	388
Active AUMs:	152	Total acres:	3,324
Suspended AUMs:	0		
Total AUMs:	152		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	25	9
Pronghorn	0	0	0
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (no identified water quality considerations)

Proposed or existing ACEC:

Owyhee below the Dam (Alternatives A, C, D, E)

Administratively suitable National Wild and Scenic Rivers:

Owyhee NWSR (Alternatives A, C, D)

BLM allotment name:	**VALE BUTTE (N)**	Allotment number:	10409
Management category:	C	BLM acres:	252
Number of pasture(s):	1	Private acres:	254
AMP implemented:	No	State acres:	0
Season of use:	04/01–04/30	Other Federal acres:	0
Active AUMs:	10	Total acres:	507
Suspended AUMs:	0		
Total AUMs:	10		

Existing grazing management objectives:

Custodial allotment with no management objective identified

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	15	25	9
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**RADAR HILL**	Allotment number:	10410
Management category:	M	BLM acres:	4,554
Number of pasture(s):	3	Private acres:	982
AMP implemented:	1995	State acres:	0
Season of use:	03/01-12/31	Other Federal acres:	30
Active AUMs:	686	Total acres:	5,566
Suspended AUMs:	0		
Total AUMs:	686		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

Upland ecological condition

Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	125	41
Pronghorn	10	20	11
Elk	5	5	45

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Malheur River (water quality assessment stream, water quality limited stream)

Special Status plants:

Malheur forget-me-not

BLM allotment name:	**BLACKJACK**	Allotment number:	10501
Management category:	M	BLM acres:	13,613
Number of pasture(s):	3	Private acres:	1,841
AMP implemented:	1989	State acres:	0
Season of use:	04/15–10/15	Other Federal acres:	4,028
Active AUMs:	1,050	Total acres:	19,482
Suspended AUMs:	0		
Total AUMs:	1,050		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range
Maintain the integrity of research and study plots

Additional management emphasis:

Upland ecological condition
Seeding condition

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	75	29
Pronghorn	75	100	77
Elk	0	0	0

Special Status plants:

Mulford's milkvetch

Proposed or existing ACEC:

Owyhee below the Dam (Alternatives A, C, D, E)

Administratively suitable National Wild and Scenic Rivers:

Owyhee River (Alternatives A, C, D)

BLM allotment name:	**LOWER OWYHEE**	Allotment number:	10502
Management category:	M	BLM acres:	1,211
Number of pasture(s):	1	Private acres:	<1
AMP implemented:	1987	State acres:	0
Season of use:	03/01–11/30	Other Federal acres:	524
Active AUMs:	244	Total acres:	1,735
Suspended AUMs:	0		
Total AUMs:	244		

Existing grazing management objectives:
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:
Upland ecological condition
Riparian condition (Owyhee)

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	45	65	25
Pronghorn	5	10	6
Elk	0	0	0

Within bighorn sheep range

Proposed or existing ACEC:
Owyhee below the Dam (Alternatives A, C, D, E)

Administratively suitable National Wild and Scenic Rivers:
Owyhee River (Alternatives A, C, D)

BLM allotment name:	**THREE FINGERS**	Allotment number:	10503
Management category:	I	BLM acres:	135,361
Number of pasture(s):	27	Private acres:	23,118
AMP implemented:	No	State acres:	2,534
Season of use:	03/01–02/28	Other Federal acres:	8,237
Active AUMs:	9,981	Total acres:	169,249
Suspended AUMs:	4,653		
Total AUMs:	14,634		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots

Additional management emphasis:

Blue Canyon WSA, Slocum Creek WSA, Upper Leslie Gulch WSA, Honeycombs WSA
Three Fingers HMA
Owyhee NWSR
Candidate plants
Wild horses
Bighorn sheep

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	550	750	298
Pronghorn	25	15	22
Elk	20	20	180

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Succor Creek (water quality assessment stream)
Carter Creek (water quality assessment stream)
Mahogany Creek (water quality assessment stream)
Spring Creek (no identified water quality considerations)

Special Status plants:

Ertter's groundsel
Owyhee clover

- Smooth blazingstar
- Cusick's chaenactis
- Solitary milkvetch
- Sterile milkvetch
- Grimy ivesia
- Packard's blazingstar

Special Status fish:
- Redband trout

Proposed or existing ACEC:
- Honeycombs (Alternatives A, B, C, D)
- Owyhee Views (Alternatives C, D)
- Leslie Gulch (Alternatives A, B, C, D, E)
- Coal Mine Basin (Alternatives A, C, D)
- Mahogany Ridge (Alternatives A, B, C, D)
- Owyhee River (Alternative B)

BLM allotment name:	**SPRING MOUNTAIN**	Allotment number:	10504
Management category:	I	BLM acres:	43,222
Number of pasture(s):	21	Private acres:	3,179
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	6,473	Total acres:	46,402
Suspended AUMs:	2,887		
Total AUMs:	9,360		

Existing grazing management objectives:
- Maintain/improve the ecological condition of upland vegetative communities
- Maintain/improve the quality of deer/antelope winter range
- Maintain/improve the condition of riparian vegetative communities
- Protect facilities through livestock exclusion
- Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:
- Special Status plants
- Wildlife browse
- Sage grouse
- Spring riparian habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	75	81
Pronghorn	75	25	63
Elk	40	40	360

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Spring Creek (no identified water quality considerations)
- Carter Creek (water quality assessment stream)
- Spring Creek Tributary No. 1 (no identified water quality considerations)
- Spring Creek Tributary No. 2 (no identified water quality considerations)
- South Fork Carter Creek Tributary No. 1 (no identified water quality considerations)
- South Fork Carter Creek (no identified water quality considerations)
- Old Maids Creek (no identified water quality considerations)
- Mahogany Creek (no identified water quality considerations)
- Dog Creek (no identified water quality considerations)

Hog Creek (no identified water quality considerations)
Whiskey Creek (no identified water quality considerations)
Whiskey Creek Tributary No. 1 (no identified water quality considerations)
Dog Creek Tributary No. 1 (no identified water quality considerations)
Old Maids Creek Tributary No. 1 (no identified water quality considerations)
Thomas Creek (no identified water quality considerations)
Wilson Creek Tributary No. 1 (no identified water quality considerations)
Wilson Creek (no identified water quality considerations)

Special Status plants:
Owyhee clover
Sterile milkvetch
Smooth blazingstar

Special Status fish:
Redband trout

Proposed or existing ACEC:
Spring Mountain (Alternatives A, C, D)

BLM allotment name:	**MCCAIN SPRINGS**	Allotment number:	10505
Management category:	I	BLM acres:	9,587
Number of pasture(s):	12	Private acres:	0
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	1,949	Total acres:	9,587
Suspended AUMs:	953		
Total AUMs:	2,902		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the quality of deer/antelope winter range
Protect facilities through livestock exclusion

Additional management emphasis:

Jordan Craters ACEC
Jordan Craters WSA
RNA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	80	28
Pronghorn	50	50	48
Elk	0	0	0

Within bighorn sheep range

Proposed or existing ACEC:

Jordan Craters (Alternatives A, B, C, D, E)

BLM allotment name:	**BIRCH CREEK**	Allotment number:	10506
Management category:	I	BLM acres:	10,013
Number of pasture(s):	4	Private acres:	2
AMP implemented:	No	State acres:	0
Season of use: 03/01-05/15; 11/-02/28		Other Federal acres:	1,555
Active AUMs:	1,099	Total acres:	11,570
Suspended AUMs:	308		
Total AUMs:	1,407		

Existing grazing management objectives:
Maintain/improve the condition of riparian vegetative communities
Maintain the ecological condition of upland vegetative communities

Additional management emphasis:
Owyhee River ACEC
Owyhee Breaks WSA, Blue Canyon WSA
Owyhee NWSR

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	100	45
Pronghorn	15	15	14
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Birch Creek (no identified water quality considerations)
Owyhee River (no identified water quality considerations)

Special Status plants:
Ertter's groundsel
Sterile milkvetch

Special Status fish:
Redband trout

Proposed or existing ACEC:
Owyhee River (Alternative B)
Owyhee Views

BLM allotment name:	**BOARD CORRALS**	Allotment number:	10507
Management category:	I	BLM acres:	55,637
Number of pasture(s):	7	Private acres:	1,725
AMP implemented:	No	State acres:	0
Season of use:	03/01-02/28	Other Federal acres:	3,625
Active AUMs:	4,182	Total acres:	60,986
Suspended AUMs:	1,778		
Total AUMs:	5,960		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain the integrity of research and study plots
Protect facilities through livestock exclusion

Additional management emphasis:

Three Fingers HMA
Honeycombs WSA, Wildhorse Basin WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	300	125
Pronghorn	50	0	39
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Succor Creek (water quality assessment stream)
Birch Creek (no identified water quality considerations)
Indian Creek (no identified water quality considerations)
Antelope Creek (no identified water quality considerations)

Special Status plants:

Sterile milkvetch

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee Views (Alternatives C, D)

BLM allotment name:	**ROCKVILLE**	Allotment number:	10508
Management category:	I	BLM acres:	22,711
Number of pasture(s):	7	Private acres:	1,027
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	2,688	Total acres:	23,738
Suspended AUMs:	1445		
Total AUMs:	4,133		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	300	94
Pronghorn	50	75	52
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Pole Creek (no identified water quality considerations)

McBride Creek (no identified water quality considerations)

Special Status plants:

Smooth blazingstar

Sterile milkvetch

BLM allotment name:	**MAHOGANY MOUNTAIN**	Allotment number:	10509
Management category:	I	BLM acres:	40,142
Number of pasture(s):	11	Private acres:	3,840
AMP implemented:	No	State acres:	0
Season of use:	03/25–10/31	Other Federal acres:	357
Active AUMs:	5,683	Total acres:	44,339
Suspended AUMs:	2811		
Total AUMs:	8,495		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range
Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

Mahogany Ridge ACEC
Riparian habitat on Willow Creek

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	25	90
Pronghorn	50	0	39
Elk	40	40	360

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (no identified water quality considerations)
Fish Creek (water quality assessment stream)
Fish Creek Tributary No. 1 (no identified water quality considerations)
Fish Creek Tributary No. 2 (no identified water quality considerations)

Special Status plants:

Ertter's groundsel
Owyhee clover

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee Views (Alternatives C, D)
Mahogany Ridge (Alternatives A, B, C, D)

BLM allotment name:	**SCHNABLE CREEK**	Allotment number:	10510
Management category:	M	BLM acres:	5,575
Number of pasture(s):	3	Private acres:	17
AMP implemented:	No	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	1,416	Total acres:	5,592
Suspended AUMs:	693		
Total AUMs:	2,109		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities.

Maintain/improve the quality of deer/antelope winter range.

Additional management emphasis:

Jordan Craters ACEC

Jordan Craters WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	50	23
Pronghorn	75	75	72
Elk	0	0	0

Proposed or existing ACEC:

Jordan Craters (Alternatives A, B, C, D, E)

BLM allotment name:	**TUNNEL CANYON**	Allotment number:	10512
Management category:	I	BLM acres:	13,106
Number of pasture(s):	2	Private acres:	1
AMP implemented:	No	State acres:	0
Season of use:	03/21-12/31	Other Federal acres:	179
Active AUMs:	1,380	Total acres:	13,285
Suspended AUMs:	615		
Total AUMs:	1,995		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Additional management emphasis:

Wildhorse Basin WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	250	103
Pronghorn	15	35	18
Elk	0	0	0

Within bighorn sheep range

Proposed or existing ACEC:

Owyhee below the Dam (Alternatives A, C, D, E)

Owyhee Views (Alternatives C, D)

BLM allotment name:	**VENATOR**	Allotment number:	10605
Management category:	M	BLM acres:	21,353
Number of pasture(s):	8	Private acres:	7,393
AMP implemented:	1990	State acres:	897
Season of use:	04/01-10/31	Other Federal acres:	0
Active AUMs:	2,309	Total acres:	29,643
Suspended AUMs:	0		
Total AUMs:	2,309		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	200	112
Pronghorn	100	60	89
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Deadman Creek (water quality assessment stream)

BLM allotment name:	**LODGE**	Allotment number:	10901
Management category:	M	BLM acres:	17,436
Number of pasture(s):	2	Private acres:	89
AMP implemented:	1975	State acres:	0
Season of use:	04/01-10/30	Other Federal acres:	0
Active AUMs:	3,150	Total acres:	17,525
Suspended AUMs:	0		
Total AUMs:	3,150		

Existing grazing management objectives:

Reverse the downward trend of upland vegetative communities

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee Breaks WSA, Jordan Craters WSA

Jordan Craters ACEC/RNA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	100	40
Pronghorn	100	150	105
Elk	0	0	0

Within bighorn sheep range

Proposed or existing ACEC:

Owyhee Views (Alternatives C, D)

Jordan Craters (Alternatives A, B, C, D, E)

BLM allotment name:	**SOUTH ALKALI**	Allotment number:	20100
Management category:	I	BLM acres:	35,348
Number of pasture(s):	10	Private acres:	1,620
AMP implemented:	1992	State acres:	5
Season of use:	03/01–02/28	Other Federal acres:	56
Active AUMs:	6,837	Total acres:	37,029
Suspended AUMs:	767		
Total AUMs:	7,604		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Maintain the integrity of research and study plots
Protect facilities through livestock exclusion

Additional management emphasis:

Wildlife browse
Curlew habitat
Special Status plants
Oregon Trail

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	480	169
Pronghorn	25	40	27
Elk	25	100	563

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Henry Gulch (no identified water quality considerations)

Special Status plants:

Malheur forget-me-not
Mulford's milkvetch

Proposed or existing ACEC:

Oregon Trail
South Alkali Sand Hills

BLM allotment name:	**ALKALI SPRING**	Allotment number:	20101
Management category:	I	BLM acres:	26,901
Number of pasture(s):	18	Private acres:	6,742
AMP implemented:	1991	State acres:	0
Season of use:	03/01–02/28	Other Federal acres:	11
Active AUMs:	5,757	Total acres:	33,654
Suspended AUMs:	7		
Total AUMs:	5,764		

Existing grazing management objectives:

Maximize the availability of fall green-up for winter deer/antelope use

Improve the ecological condition of upland vegetative communities

Maintain/improve the quality of deer/antelope winter range

Some pastures containing private land are managed custodial with no management objective identified

Maintain/improve the condition of riparian vegetative communities

Protect facilities through livestock exclusion

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	175	300	110
Pronghorn	25	40	27
Elk	10	15	113

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Birch Creek (no identified water quality considerations)

Dry Gulch Tributary No. 3 (no identified water quality considerations)

Dry Gulch Tributary No. 1 (no identified water quality considerations)

Dry Gulch Tributary No. 2 (no identified water quality considerations)

Dry Gulch (water quality assessment stream)

Special Status plants:

Snake River goldenweed

Proposed or existing ACEC:

Oregon Trail (Alternatives A, C, D, E)

BLM allotment name:	**COTTONWOOD MTN**	Allotment number:	20102
Management category:	I	BLM acres:	33,290
Number of pasture(s):	15	Private acres:	991
AMP implemented:	1995	State acres:	
Season of use:	04/01–10/31	Other Federal acres:	151
Active AUMs:	7,018	Total acres:	34,432
Suspended AUMs:	365		
Total AUMs:	7,383		

Existing grazing management objectives:

Maximize the availability of fall green-up for winter deer/antelope use
Improve the ecological condition of upland vegetative communities
Protect facilities through livestock exclusion
Maintain the integrity of research and study plots
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	250	92
Pronghorn	60	60	58
Elk	10	50	270

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Sheep Corral Creek (no identified water quality considerations)
Mud Creek (no identified water quality considerations)
Turner Creek (no identified water quality considerations)
Willow Creek North Fork Tributary No. 1 (no identified water quality considerations)
Bully Creek (no identified water quality considerations)
Cottonwood Creek (no identified water quality considerations)
Kern Creek (no identified water quality considerations)
Rock Cabin Creek (no identified water quality considerations)

BLM allotment name:	**POALL CREEK**	Allotment number:	20103
Management category:	M	BLM acres:	4,080
Number of pasture(s):	1	Private acres:	363
AMP implemented:	1992	State acres:	0
Season of use:	04/01–11/30	Other Federal acres:	0
Active AUMs:	589	Total acres:	4,443
Suspended AUMs:	130		
Total AUMs:	719		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities

Additional management emphasis:

Riparian (Pole Ck)

Antelope, deer, and elk winter range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	125	46
Pronghorn	10	25	12
Elk	15	25	180

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Black Creek (no identified water quality considerations)

Pole Creek (water quality assessment stream)

BLM allotment name:	**WEST BENCH**	Allotment number:	20104
Management category:	M	BLM acres:	1,079
Number of pasture(s):	2	Private acres:	8
AMP implemented:	1993	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	19
Active AUMs:	193	Total acres:	1,106
Suspended AUMs:	18		
Total AUMs:	211		

Existing grazing management objectives:

Maintain/improve the quality of deer/antelope winter range

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	125	46
Pronghorn	5	5	5
Elk	0	0	0

BLM allotment name:	**WILLOW CR LIVESTOCK**	Allotment number:	20105
Management category:	M	BLM acres:	3,585
Number of pasture(s):	3	Private acres:	85
AMP implemented:	1992	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	155
Active AUMs:	492	Total acres:	3,824
Suspended AUMs:	492		
Total AUMs:	0		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain the integrity of research and study plots

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer			
Pronghorn	5	10	6
Elk	0	0	0

BLM allotment name:	**MCEWEN**	Allotment number:	20603
Management category:	M	BLM acres:	62,846
Number of pasture(s):	9	Private acres:	38,685
AMP implemented:	1994	State acres:	280
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	6,011	Total acres:	101,811
Suspended AUMs:	0		
Total AUMs:	6,011		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:

Stockade Mountain ACEC

Juniper population increase in Stockade pasture

Bitterbrush population and vigor for deer range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	450	150	131
Pronghorn	100	65	90
Elk	25	25	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Crowley Creek (no identified water quality considerations)

South Fork Malheur River (water quality assessment stream, water quality limited stream)

Granite Creek (water quality assessment stream)

Swamp Creek (water quality assessment stream)

Proposed or existing ACEC:

Stockade Mountain (Alternatives A, B, C, D)

Jordan Resource Area

BLM allotment name:	**JACKIES BUTTE SUMMER**	Allotment number:	01101
Management category:	M	BLM acres:	209,454
Number of pasture(s):	9	Private acres:	21,803
AMP implemented::	Yes	State acres:	379
Season of use:	04/01–10/31	Other Federal acres:	8,608
Active AUMs:	14,334	Total acres:	240,244
Suspended AUMs:	0		
Total AUMs:	0		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities
Maintain/improve resource conditions by excluding livestock from selected areas
Maintain/improve the condition of riparian vegetative communities
Maintain the integrity of research and study plots

Additional management emphasis:

Jackies Butte HMA
Owyhee River and Three Forks ACECs
Owyhee Canyon WSA
Owyhee NWSR
Riparian
Antelope winter range
Mule deer habitat
Rome North is not in grazing system

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	150	52
Pronghorn	100	325	137
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (no identified water quality considerations)
Dry Creek (no identified water quality considerations)
Antelope Creek (no identified water quality considerations)
Crooked Creek (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

Three Forks (Alternatives B, D, E)

Administratively suitable National Wild and Scenic Rivers:

Antelope Creek (Alternatives C, D)

BLM allotment name:	**AMBROSE-MAHER**	Allotment number:	01102

Management category:	C	BLM acres:	3,633
Number of pasture(s):	1	Private acres:	374
AMP implemented:	No	State acres:	47
Season of use:	10/15–05/15	Other Federal acres:	1,043

Active AUMs:	580	Total acres:	5,097
Suspended AUMs:	0		
Total AUMs:	580		

Existing grazing management objectives:

Maintain/improve the condition of riparian vegetative communities
Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee Canyon WSA
Owyhee NWSR
Three Forks and Owyhee River ACECs
Riparian habitat
Mule deer habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	20	50	16
Pronghorn	20	20	19
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Antelope Creek (no identified water quality considerations)
Owyhee River (water quality assessment stream)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Three Forks (Alternatives B, D, E)
Owyhee River (Alternative B)

Administratively suitable National Wild and Scenic Rivers:

Antelope Creek (Alternatives C, D)

BLM allotment name:	**JACKIES BUTTE WINTER**	Allotment number:	01103
Management category:	C	BLM acres:	19,357
Number of pasture(s):	1	Private acres:	834
AMP implemented:	No	State acres:	0
Season of use:	11/01-01/31	Other Federal acres:	0
Active AUMs:	485	Total acres:	20,191
Suspended AUMs:	0		
Total AUMs:	485		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	30	250	67
Pronghorn	40	150	58
Elk	0	0	0

BLM allotment name:	**15-MILE COMMUNITY**	Allotment number:	01201
Management category:	I	BLM acres:	317,609
Number of pasture(s):	33	Private acres:	13,801
AMP implemented:	No	State acres:	138
Season of use:	03/01–10/31	Other Federal acres:	0
Active AUMs:	21,146	Total acres:	331,548
Suspended AUMs:	0		
Total AUMs:	21,146		

Existing grazing management objectives:
- Maintain/improve the ecological condition of upland vegetative communities
- Maintain/improve the condition of riparian vegetative communities
- Reverse the downward trend of upland vegetative communities
- Protect facilities through livestock exclusion
- Maintain the integrity of research and study plots
- Maintain the integrity of enclosures constructed for wildlife benefits
- Some pastures containing private land are managed custodial with no management objective identified

Additional management emphasis:
- Bowden Hills and Trout Creek Mountain Group WSAs
- T&E species (fish)
- Riparian habitat
- Bighorn habitat
- Mule deer habitat
- Antelope habitat
- Archeology
- Whitehorse Basin ACEC
- Fisheries

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	550	550	249
Pronghorn	100	190	112
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Antelope Creek (no identified water quality considerations)
- Antelope Creek Tributary No. 1 (no identified water quality considerations)
- Antelope Creek Tributary No. 2 (no identified water quality considerations)
- Dry Creek (no identified water quality considerations)
- Dry Creek Tributary No. 1 (no identified water quality considerations)

Fish Creek (no identified water quality considerations)
Little Antelope Creek (no identified water quality considerations)
South Fork Fish Creek (no identified water quality considerations)
Twelvemile Creek (no identified water quality considerations)
Twelvemile Creek Tributary No. 1 (no identified water quality considerations)
Whitehorse Creek Tributary No. 1 (no identified water quality considerations)
Whitehorse Creek Tributary No. 2 (no identified water quality considerations)
Whitehorse Creek Tributary No. 2A (no identified water quality considerations)
Whitehorse Creek Tributary No. 2B (no identified water quality considerations)
Whitehorse Creek Tributary No. 3 (no identified water quality considerations)
Whitehorse Creek (no identified water quality considerations)
Cottonwood Creek (no identified water quality considerations)
Oregon Canyon Creek East Fork (no identified water quality considerations)
Oregon Canyon Creek (water quality assessment stream)
Oregon Canyon Creek South Fork (no identified water quality considerations)
Oregon Canyon Creek West Fork (no identified water quality considerations)
Oregon Canyon Tributary No. 1 (no identified water quality considerations)
Oregon Canyon Tributary No. 2 (no identified water quality considerations)
Oregon Canyon Tributary No. 3 (no identified water quality considerations)
Oregon Canyon Tributary No. 4 (no identified water quality considerations)
Oregon Canyon Tributary No. 5 (no identified water quality considerations)
Sheepline Canyon (no identified water quality considerations)
Unnamed To South Fork Oregon Canyon (no identified water quality considerations)
Doolittle Creek (no identified water quality considerations)
Doolittle Creek Tributary No. 1 (no identified water quality considerations)
Fifteenmile Creek (no identified water quality considerations)
Angel Canyon (no identified water quality considerations)
Jack Creek (no identified water quality considerations)
Quinn River Tributary No. 1 (no identified water quality considerations)
Quinn River Tributary No. 2 (no identified water quality considerations)
Quinn River Tributary No. 3 (no identified water quality considerations)
Quinn River Tributary No. 5 (no identified water quality considerations)
Quinn River Tributary No. 6 (no identified water quality considerations)
Rock Creek (no identified water quality considerations)
Simpson Creek (no identified water quality considerations)
Battle Creek Tributary No. 3 (no identified water quality considerations)
Jackson Creek Tributary No. 1 (no identified water quality considerations)
Jackson Creek Tributary No. 2 (no identified water quality considerations)
Jackson Creek Middle Fork (no identified water quality considerations)

Special Status fish:
Lahontan cutthroat trout

Proposed or existing ACEC:
Dry Creek Bench (Alternatives A, C, D)
Whitehorse Basin (Alternatives B, D)
Mendi Gore Playa (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:
Oregon Canyon Creek (Alternative D)

BLM allotment name:	**MC CORMICK**	Allotment number:	01202
Management category:	I	BLM acres:	56,831
Number of pasture(s):	7	Private acres:	2,068
AMP implemented:	No	State acres:	0
Season of use:	03/20–10/31	Other Federal acres:	0
Active AUMs:	6,301	Total acres:	58,899
Suspended AUMs:	2,561		
Total AUMs:	8,862		

Existing grazing management objectives:

Reverse the downward trend of upland vegetative communities
Maintain the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Maintain the integrity of research and study plots
Protect facilities through livestock exclusion

Additional management emphasis:

T&E species (fish)
Trout Creek Mountain Group WSAs
Archelogy
Riparian
Mule deer habitat
Bighorn habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	75	39
Pronghorn	30	30	29
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Doolittle Creek (no identified water quality considerations)
Fifteenmile Creek (no identified water quality considerations)
Sheepline Canyon (no identified water quality considerations)
East Fork Mine Creek (no identified water quality considerations)
Payne Creek (no identified water quality considerations)
West Fork Mine Creek (no identified water quality considerations)
Cottonwood Creek (water quality assessment stream)
Cowboy Creek (no identified water quality considerations)

Indian Creek (water quality assessment stream, water quality limited stream)
Indian Creek Tributary No. 1 (no identified water quality considerations)
Indian Creek Tributary No. 2 (no identified water quality considerations)
Indian Creek Tributary No. 3 (no identified water quality considerations)
Lasa Creek (no identified water quality considerations)
Spring Creek (no identified water quality considerations)
Spring Creek Tributary No. 1 (no identified water quality considerations)
McDermitt Creek (water quality assessment stream, water quality limited stream)
McDermitt Creek Tributary No. 1 (no identified water quality considerations)
McDermitt Creek Tributary No. 2 (no identified water quality considerations)

Special Status fish:
Lahontan cutthroat trout

Administratively suitable National Wild and Scenic Rivers:
Indian Creek (Alternative D)

BLM allotment name:	**ZIMMERMAN**	Allotment number:	01203
Management category:	I	BLM acres:	31,688
Number of pasture(s):	10	Private acres:	1,333
AMP implemented:	No	State acres:	8
Season of use:	04/01–11/30	Other Federal acres:	0
Active AUMs:	5,249	Total acres:	33,029
Suspended AUMs:	522		
Total AUMs:	5,771		

Existing grazing management objectives:

Maintain/improve the condition of riparian vegetative communities
Maintain/improve the ecological condition of upland vegetative communities
Some pastures containing private land are managed custodial with no management objective identified
Maintain the integrity of research and study plots
Protect facilities through livestock exclusion

Additional management emphasis:

Trout Creek Mountain Group WSAs
T & E species (fish)
Riparian
Mule deer habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	75	39
Pronghorn	20	20	19
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Dry Creek (no identified water quality considerations)
Payne Creek (no identified water quality considerations)
Cowboy Creek (no identified water quality considerations)
Hot Creek (no identified water quality considerations)
Mine Creek (no identified water quality considerations)
McDermitt Creek (water quality assessment stream, water quality limited stream)
McDermitt Creek Tributary No. 3 (no identified water quality considerations)
North Fork McDermitt Creek (no identified water quality considerations)
Turner Creek (no identified water quality considerations)
Line Canyon Tributary No. 1 (no identified water quality considerations)

Sage Creek (water quality assessment stream, water quality limited stream)
Sage Creek Tributary No. 1 (no identified water quality considerations)
Sage Creek Tributary No. 2 (no identified water quality considerations)

Special Status fish:
Lahontan cutthroat trout

Administratively suitable National Wild and Scenic Rivers:
McDermitt Creek (Alternative D)
North Fork McDermitt Creek (Alternative D)
Sage Creek (Alternative D)

BLM allotment name:	**WHITEHORSE BUTTE**	Allotment number:	01206
Management category:	I	BLM acres:	124,086
Number of pasture(s):	10	Private acres:	14,502
AMP implemented:	Yes	State acres:	166
Season of use:	03/16–08/31	Other Federal acres:	0
Active AUMs:	9,287	Total acres:	138,754
Suspended AUMs:	1,691		
Total AUMs:	10,978		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Some pastures containing private land are managed custodial with no management objective identified
Stabilize meadow soils
Manage for aspen regeneration and survival

Additional management emphasis:

Coyote Lake HMA
Whitehorse Basin and Little Whitehorse Creek ACECs
Trout Creek Mountain Group WSAs
T & E species (fish)
Archeology
Riparian
Mule deer habitat
Bighorn habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	400	181
Pronghorn	50	50	48
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Fish Creek (no identified water quality considerations)
South Fork Fish Creek (no identified water quality considerations)
Antelope Creek (no identified water quality considerations)
Little Antelope Creek (no identified water quality considerations)
Willow Creek (water quality limited stream)
Little Whitehorse Creek (no identified water quality considerations)

Whitehorse Creek Tributary No. 1 (no identified water quality considerations)
Doolittle Creek (no identified water quality considerations)
Fifteenmile Creek (no identified water quality considerations)
Fifteenmile Creek Tributary No. 1 (no identified water quality considerations)
Lower Whitehorse Creek (water quality limited stream)
Jaw Bone Creek (no identified water quality considerations)
Jaw Bone Creek Tributary No. 1 (no identified water quality considerations)
Lower Whitehorse Creek Tributary No. 1 (no identified water quality considerations)
North Fork McDermitt Tributary No. 1 (no identified water quality considerations)
North Fork McDermitt Creek (no identified water quality considerations)
Willow Creek Tributary No. 1 (no identified water quality considerations)
Willow Creek Tributary No. 2 (no identified water quality considerations)
Willow Creek Tributary No. 3 (no identified water quality considerations)
Willow Creek Tributary No. 4 (no identified water quality considerations)

Special Status fish:
Lahontan cutthroat trout

Proposed or existing ACEC:
Whitehorse Basin (Alternatives B, D)
Little Whitehorse Creek (Alternatives A, B, C, D)

Administratively suitable National Wild and Scenic Rivers:
North Fork McDermitt Creek (Alternative D)
Doolittle Creek (Alternative D)
Little Whitehorse Creek (Alternative D)
Whitehorse Creek (Alternative D)
Willow Creek (Alternatives C, D)

BLM allotment name:	**ALBISU-ALCORTA**	**Allotment number:**	**01304**
Management category:	**M**	**BLM acres:**	**14,122**
Number of pasture(s):	**3**	**Private acres:**	**783**
AMP implemented:	**Yes**	**State acres:**	**0**
Season of use:	**03/16–10/15**	**Other Federal acres:**	**0**
Active AUMs:	**1,006**	**Total acres:**	**14,905**
Suspended AUMs:	**0**		
Total AUMs:	**1,006**		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	**10**	**50**	**14**
Pronghorn	**15**	**15**	**14**
Elk	**0**	**0**	**0**

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Shearing Corral Creek (no identified water quality considerations)

Tenmile Creek Tributary No. 1 (no identified water quality considerations)

Tenmile Creek Tributary No. 2 (no identified water quality considerations)

Tenmile Creek (no identified water quality considerations)

BLM allotment name:	**LOUSE CANYON COMMUNITY**	**Allotment number:**	**01307**
Management category:	**M**	**BLM acres:**	**132,906**
Number of pasture(s):	**5**	**Private acres:**	**2,444**
AMP implemented:	**No**	**State acres:**	**23**
Season of use:	**03/01-10/31**	**Other Federal acres:**	**758**
Active AUMs:	**11,533**	**Total acres:**	**136,131**
Suspended AUMs:	**0**		
Total AUMs:	**11,533**		

Existing grazing management objectives:

- Maintain/improve the ecological condition of upland vegetative communities
- Maintain/improve the condition of riparian vegetative communities
- Maintain the integrity of research and study plots
- Protect facilities through livestock exclusion

Additional management emphasis:

- Upper West Little Owyhee WSA
- Owyhee River ACEC
- Owyhee NWSR
- Riparian

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	150	20	36
Pronghorn	60	0	47
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

- Owyhee River (no identified water quality considerations)
- Pole Creek (no identified water quality considerations)
- West Little Owyhee River (water quality assessment stream)
- Field Creek (no identified water quality considerations)
- Pole Creek Tributary No. 1 (no identified water quality considerations)
- Cavieta Creek (no identified water quality considerations)
- Deep Creek (no identified water quality considerations)
- Jack Creek (no identified water quality considerations)
- Lake Fork (no identified water quality considerations)
- Massey Canyon (no identified water quality considerations)
- Pole Creek Tributary No. 2 (no identified water quality considerations)

Pole Creek Tributary No. 3 (no identified water quality considerations)
Steer Canyon (no identified water quality considerations)
Steer Canyon Tributary No. 1 (no identified water quality considerations)
Steer Canyon Tributary No. 2 (no identified water quality considerations)
West Little Owyhee River Tributary No. 1 (no identified water quality considerations)
West Little Owyhee River Tributary No. 2 (no identified water quality considerations)
West Little Owyhee River Tributary No. 3 (no identified water quality considerations)
St. Martin Creek (no identified water quality considerations)
Antelope Creek (water quality assessment stream)

Special Status fish:
Redband trout

Proposed or existing ACEC:
Owyhee River (Alternative B)

BLM allotment name:	**TEN MILE**	Allotment number:	01308
Management category:	M	BLM acres:	3,514
Number of pasture(s):	1	Private acres:	54
AMP implemented:	No	State acres:	0
Season of use:	03/16–06/15	Other Federal acres:	0
Active AUMs:	664	Total acres:	3,568
Suspended AUMs:	0		
Total AUMs:	664		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	5	5	2
Pronghorn	15	15	14
Elk	0	0	0

BLM allotment name:	**BLACK HILL**	Allotment number:	01309
Management category:	C	BLM acres:	2,247
Number of pasture(s):	1	Private acres:	28,217
AMP implemented:	No	State acres:	0
Season of use:	11/01–02/28	Other Federal acres:	0
Active AUMs:	No	Total acres:	30,464
Suspended AUMs:	0		
Total AUMs:	0		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	5	5	2
Pronghorn	15	25	16
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Crooked Creek (water quality assessment stream)

BLM allotment name:	**ANDERSON**	Allotment number:	01401
Management category:	M	BLM acres:	39,319
Number of pasture(s):	3	Private acres:	88
AMP implemented:	No	State acres:	73
Season of use:	03/01–07/31	Other Federal acres:	0
Active AUMs:	2,964	Total acres:	39,480
Suspended AUMs:	0		
Total AUMs:	2,964		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities
Protect facilities through livestock exclusion
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Owyhee River ACEC
Owyhee Canyon WSA
Owyhee NWSR
Management of Junction Reservoir and West Little Owyhee stream exclosures undefined

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	50	17
Pronghorn	45	20	39
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (no identified water quality considerations)
Toppin Creek (no identified water quality considerations)
West Little Owyhee River (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)
Toppin Creek Butte (Alternatives A, C, D)

Administratively suitable National Wild and Scenic Rivers:

Antelope Creek (Alternatives C, D)

BLM allotment name:	STAR VALLEY COMMUNITY	Allotment number:	01402
Management category:	M	BLM acres:	190,288
Number of pasture(s):	4	Private acres:	40
AMP implemented:	No	State acres:	0
Season of use:	03/01–10/31	Other Federal acres:	0
Active AUMs:	6,901	Total acres:	190,328
Suspended AUMs:	0		
Total AUMs:	6,961		

Existing grazing management objectives:
Maintain/improve the ecological condition of upland vegetative communities

Additional management emphasis:
Owyhee River ACEC
Owyhee Canyon WSA, Upper West Little Owyhee WSA, Lookout Butte WSA
Owyhee NWSR

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	0	5
Pronghorn	90	0	70
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
Owyhee River (no identified water quality considerations)
Toppin Creek (no identified water quality considerations)
West Little Owyhee River (no identified water quality considerations)
Jack Creek (no identified water quality considerations)

Special Status plants:
Davis' peppergrass

Special Status fish:
Redband trout

Proposed or existing ACEC:
Owyhee River (Alternative B)

BLM allotment name:	**SHEEPSHEAD**	**Allotment number:**	10702
Management category:	M	**BLM acres:**	152,037
Number of pasture(s):	1 actual/ 4 unfenced use areas	**Private acres:**	1,102
AMP implemented:	No	**State acres:**	602
Season of use:	03/01–02/28	**Other Federal acres:**	0
Active AUMs:	3,949	**Total acres:**	153,741
Suspended AUMs:	0		
Total AUMs:	3,949		

Existing grazing management objectives:

Protect facilities through livestock exclusion
Maintain the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities
Maintain the integrity of research and study plots

Additional management emphasis:

Sheepshead and Sand Springs HMAs
Sheepshead Mountain Group WSA, Saddle Butte WSA, Sheepshead Mountain Group WSA
California bighorn sheep
Mule deer habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	150	89
Pronghorn	75	50	68
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Ryegrass Creek (no identified water quality considerations)

BLM allotment name:	**BARREN VALLEY**	**Allotment number:**	**10801**
Management category:	**M**	**BLM acres:**	**12,915**
Number of pasture(s):	**2**	**Private acres:**	**0**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**11/01–03/31**	**Other Federal acres:**	**0**
Active AUMs:	**204**	**Total acres:**	**12,915**
Suspended AUMs:	**0**		
Total AUMs:	**204**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	25	11
Pronghorn	0	25	5
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Dry Creek (no identified water quality considerations)

BLM allotment name:	**BOWDEN HILLS**	**Allotment number:**	**10803**
Management category:	**M**	**BLM acres:**	**82,609**
Number of pasture(s):	**1**	**Private acres:**	**2,244**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**01/17-03/31**	**Other Federal acres:**	**113**
Active AUMs:	**1,927**	**Total acres:**	**84,965**
Suspended AUMs:	**0**		
Total AUMs:	**1,927**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Maintain the integrity of enclosures constructed for wildlife benefits

Additional management emphasis:

Bowden Hills WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	**100**	**150**	**57**
Pronghorn	**100**	**150**	**105**
Elk	**0**	**0**	**0**

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Rattlesnake Creek (water quality assessment stream)

BLM allotment name:	**COYOTE LAKE**	**Allotment number:**	**10804**
Management category:	**M**	**BLM acres:**	**162,858**
Number of pasture(s):	**0**	**Private acres:**	**15,500**
AMP implemented:	**No**	**State acres:**	**80**
Season of use:	**11/01–03/15**	**Other Federal acres:**	**15**
Active AUMs:	**3,196**	**Total acres:**	**178,453**
Suspended AUMs:	**381**		
Total AUMs:	**0**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Alvord Desert WSA

Coyote Lake HMA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	125	41
Pronghorn	75	120	80
Elk	0	0	0

Special Status plants:

Davis' peppergrass

Solitary milkvetch

BLM allotment name:	**CROOKED CREEK**	Allotment number:	10806
Management category:	C	BLM acres:	1,289
Number of pasture(s):	1	Private acres:	5,952
AMP implemented:	No	State acres:	0
Season of use:	11/01–02/28	Other Federal acres:	0
Active AUMs:	144	Total acres:	7,241
Suspended AUMs:	0		
Total AUMs:	144		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	10	5
Pronghorn	50	50	48
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Bone Creek (no identified water quality considerations)

Crooked Creek (water quality assessment stream)

BLM allotment name:	**EAST COW CREEK**	Allotment number:	10903
Management category:	M	BLM acres:	45,176
Number of pasture(s):	16	Private acres:	1,657
AMP implemented:	1976	State acres:	61
Season of use:	04/01–11/30	Other Federal acres:	4,092
Active AUMs:	6,444	Total acres:	50,985
Suspended AUMs:	1,715		
Total AUMs:	8,159		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Reverse the downward trend of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Maintain the integrity of research and study plots

Protect facilities through livestock exclusion

Additional management emphasis:

None.

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	175	95
Pronghorn	100	150	105
Elk	0	0	0

BLM allotment name:	**BOGUS CREEK**	**Allotment number:**	**10904**
Management category:	**C**	**BLM acres:**	**3,060**
Number of pasture(s):	**1**	**Private acres:**	**283**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**02/16–03/31**	**Other Federal acres:**	**1,297**
Active AUMs:	**250**	**Total acres:**	**4,640**
Suspended AUMs:	**0**		
Total AUMs:	**250**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Lower Owyhee WSA
Owyhee River ACEC
Owyhee NWSR
Cultural (Potter Cove)
Riparian habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**125**	**150**	**63**
Pronghorn	**100**	**150**	**105**
Elk	**0**	**0**	**0**

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Bogus Creek (no identified water quality considerations)
Owyhee River (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**OLIVER**	**Allotment number:**	**10905**
Management category:	**M**	**BLM acres:**	**20,953**
Number of pasture(s):	**2**	**Private acres:**	**575**
AMP implemented:	**No**	**State acres:**	**1,865**
Season of use:	**04/01-09/30**	**Other Federal acres:**	**0**
Active AUMs:	**560**	**Total acres:**	**23,392**
Suspended AUMs:	**0**		
Total AUMs:	**560**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Protect facilities through livestock exclusion

Additional management emphasis:

Jordan Craters WSA

Jordan Craters ACEC

Oliver West

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**50**	**75**	**29**
Pronghorn	**100**	**100**	**96**
Elk	**0**	**0**	**0**

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cow Creek (no identified water quality considerations)

Upper Cow Creek Lake (water quality assessment stream)

Proposed or existing ACEC:

Jordan Craters (Alternatives A, B, C, D, E)

BLM allotment name:	**MORCOM**	Allotment number:	10907
Management category:	C	BLM acres:	5,051
Number of pasture(s):	2	Private acres:	0
AMP implemented:	No	State acres:	0
Season of use:	11/01–03/31	Other Federal acres:	981
Active AUMs:	220	Totrl acres:	6,033
Suspended AUMs:	0		
Total AUMs:	220		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Lower Owyhee WSA, Owyhee Breaks WSA
Owyhee NWSR
Owyhee River ACEC
Riparian

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	75	26
Pronghorn	10	10	10
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River Tributary No. 1 (no identified water quality considerations)
Owyhee River Tributary No. 2 (no identified water quality considerations)

Special Status plants:

Ertter's groundsel

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)
Owyhee Views (Alternatives C, D)

BLM allotment name:	WROTEN	Allotment number:	11003
Management category:	I	BLM acres:	16,237
Number of pasture(s):	5	Private acres:	3,681
AMP implemented:	No	State acres:	0
Season of use:	04/01–11/30	Other Federal acres:	279
Active AUMs:	2,636	Total acres:	20,197
Suspended AUMs:	330		
Total AUMs:	2,966		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Reverse the downward trend of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Riparian

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	50	17
Pronghorn	40	40	38
Elk	0	10	45

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Chicken Creek (no identified water quality considerations)

Chicken Creek Tributary No. 1 (no identified water quality considerations)

Chicken Creek Tributary No. 2 (no identified water quality considerations)

BLM allotment name:	**WILLOW CREEK**	**Allotment number:**	**11004**
Management category:	**I**	**BLM acres:**	**68,690**
Number of pasture(s):	**18**	**Private acres:**	**2,199**
AMP implemented:	**Yes**	**State acres:**	**52**
Season of use:	**04/01–08/31**	**Other Federal acres:**	**1,622**
Active AUMs:	**10,521**	**Total acres:**	**72,564**
Suspended AUMs:	**1639**		
Total AUMs:	**12,160**		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Reverse the downward trend of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Owyhee River ACEC

Owyhee NWSR

Owyhee Canyon WSA

Deer winter area

Riparian

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	**100**	**25**	**27**
Pronghorn	**75**	**75**	**72**
Elk	**0**	**25**	**113**

Within range of bighorn sheep

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Willow Creek (no identified water quality considerations)

Coburn Creek (no identified water quality considerations)

Spring Branch Creek (no identified water quality considerations)

Horse Creek (no identified water quality considerations)

Toppin Creek (no identified water quality considerations)

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**BIGHORN**	Allotment number:	11005
Management category:	M	BLM acres:	5,685
Number of pasture(s):	3	Private acres:	0
AMP implemented:	Yes	State acres:	<1
Season of use:	04/08–12/31; 09/15–12/31	Other Federal acres:	408
Active AUMs:	1,040	Total acres:	6,093
Suspended AUMs:	0		
Total AUMs:	1,040		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee River ACEC

Owyhee NWSR

Owyhee Canyon WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	20	7
Pronghorn	10	45	16
Elk	0	0	0

Within bighorn sheep range

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**EIGUREN INDIVIDUAL**	**Allotment number:**	**11006**
Management category:	**C**	**BLM acres:**	**1,575**
Number of pasture(s):	**1**	**Private acres:**	**2,533**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**40**
Active AUMs:	**301**	**Total acres:**	**4,148**
Suspended AUMs:	**0**		
Total AUMs:	**301**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Mule deer winter range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**35**	**50**	**20**
Pronghorn	**50**	**75**	**53**
Elk	**0**	**0**	**0**

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Jordan Creek (water quality assessment stream)

BLM allotment name:	**ROME INDIVIDUAL**	**Allotment number:**	**11007**
Management category:	**C**	**BLM acres:**	**2,319**
Number of pasture(s):	**1**	**Private acres:**	**311**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**138**
Active AUMs:	**70**	**Total acres:**	**2,768**
Suspended AUMs:	**0**		
Total AUMs:	**70**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	50	20
Pronghorn	15	15	14
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Jordan Creek (no identified water quality considerations)

Special Status fish:

Redband trout

BLM allotment name:	**WHITEHORSE**	Allotment number:	11008
Management category:	I	BLM acres:	26,195
Number of pasture(s):	2	Private acres:	764
AMP implemented:	Yes	State acres:	2
Season of use:	04/08-06/15	Other Federal acres:	1,909
Active AUMs:	4,391	Total acres:	28,871
Suspended AUMs:	0		
Total AUMs:	4,391		

Existing grazing management objectives:

Improve the ecological condition of upland vegetative communities.

Additional management emphasis:

Three Forks and Owyhee River ACECs

Owyhee NWSR

Owyhee Canyon WSA

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	300	83
Pronghorn	60	40	54
Elk	0	25	113

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2):

Owyhee River North Fork (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Three Forks (Alternatives B, D, E)

Owyhee River (Alternative B)

BLM allotment name:	**PARSNIP PEAK**	Allotment number:	11009
Management category:	C	BLM acres:	726
Number of pasture(s):	1	Private acres:	1,026
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	126	Total acres:	1,752
Suspended AUMs:	0		
Total AUMs:	126		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	170	62
Pronghorn	15	0	12
Elk	0	25	113

BLM allotment name:	**SKINNER INDIVIDUAL**	**Allotment number:**	**11010**
Management category:	**C**	**BLM acres:**	**3,082**
Number of pasture(s):	**1**	**Private acres:**	**3,272**
AMP implemented:		**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**878**
Active AUMs:	**178**	**Total acres:**	**7,232**
Suspended AUMs:	**0**		
Total AUMs:	**178**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**35**	**50**	**20**
Pronghorn	**75**	**75**	**72**
Elk	**0**	**0**	**0**

BLM allotment name:	ANTELOPE INDIVIDUAL	Allotment number:	11011
Management category:	C	BLM acres:	608
Number of pasture(s):	1	Private acres:	1,247
AMP implemented:	No	State acres:	0
Season of use:	Undefined	Other Federal acres:	0
Active AUMs:	54	Total acres:	1,856
Suspended AUMs:	0		
Total AUMs:	54		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	50	20
Pronghorn	15	15	14
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Jordan Creek (water quality assessment stream)

BLM allotment name:	**MILLER INDIVIDUAL**	**Allotment number:**	**11012**
Management category:	**C**	**BLM acres:**	**1,087**
Number of pasture(s):	**1**	**Private acres:**	**1,159**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**117**	**Total acres:**	**2,246**
Suspended AUMs:	**0**		
Total AUMs:	**117**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	50	20
Pronghorn	15	15	14
Elk	0	0	0

BLM allotment name:	**DANNER INDIVIDUAL**	**Allotment number:**	**11013**
Management category:	**C**	**BLM acres:**	**329**
Number of pasture(s):	**1**	**Private acres:**	**289**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**33**	**Total acres:**	**618**
Suspended AUMs:	**0**		
Total AUMs:	**33**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	35	50	20
Pronghorn	10	10	10
Elk	0	0	0

BLM allotment name:	**CHERRY CREEK**	**Allotment number:**	**11014**
Management category:	**C**	**BLM acres:**	**824**
Number of pasture(s):	**1**	**Private acres:**	**0**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/08–06/15**	**Other Federal acres:**	**0**
Active AUMs:	**66**	**Total acres:**	**824**
Suspended AUMs:	**0**		
Total AUMs:	**66**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee NWSR

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	10	18
Pronghorn	15	0	12
Elk	0	0	0

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cherry Creek (no identified water quality considerations)

Owyhee River North Fork (no identified water quality considerations)

Special Status fish:

Redband trout

BLM allotment name:	**LITTLE ANTELOPE**	**Allotment number:**	**11015**
Management category:	**C**	**BLM acres:**	**497**
Number of pasture(s):	**1**	**Private acres:**	**0**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**Undefined**	**Other Federal acres:**	**0**
Active AUMs:	**109**	**Total acres:**	**497**
Suspended AUMs:	**0**		
Total AUMs:	**109**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	65	21
Pronghorn	5	0	4
Elk	0	0	0

BLM allotment name:	**SHERBURN**	**Allotment number:**	**11303**
Management category:	**M**	**BLM acres:**	**45,338**
Number of pasture(s):	**5**	**Private acres:**	**596**
AMP implemented:	**Yes**	**State acres:**	**0**
Season of use:	**03/01–11/30**	**Other Federal acres:**	**0**
Active AUMs:	**3,771**	**Total acres:**	**45,934**
Suspended AUMs:	**0**		
Total AUMs:	**3,771**		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**75**	**50**	**28**
Pronghorn	**75**	**0**	**59**
Elk	**0**	**0**	**0**

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Cottonwood Creek (no identified water quality considerations)
Quinn River Tributary No. 4 (no identified water quality considerations)
Tenmile Creek Tributary No. 3 (no identified water quality considerations)
Tenmile Creek (no identified water quality considerations)
Antelope Creek Tributary No. 2 (no identified water quality considerations)
Hansen Flat Creek (no identified water quality considerations)
Tenmile Creek Tributary No. 4 (no identified water quality considerations)
Trail Creek
Trail Creek Tributary No. 1
Trail Creek Tributary No. 2
Trail Creek Tributary No. 3

BLM allotment name:	EIGUREN	Allotment number:	11305
Management category:	M	BLM acres:	67,329
Number of pasture(s):	7	Private acres:	437
AMP implemented:	Yes	State acres:	0
Season of use:	03/05–11/31	Other Federal acres:	0
Active AUMs:	5,799	Total acres:	67,765
Suspended AUMs:	0		
Total AUMs:	5,799		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Maintain the integrity of enclosures constructed for wildlife benefits

Additional management emphasis:

Bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	50	28
Pronghorn	70	45	63
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Antelope Creek (no identified water quality considerations)

Little Rattlesnake Creek (no identified water quality considerations)

Rattlesnake Creek (water quality assessment stream)

Administratively suitable National Wild and Scenic Rivers:

Rattlesnake Creek (Alternative D)

BLM allotment name:	**CAMPBELL**	Allotment number:	11306
Management category:	M	BLM acres:	158,938
Number of pasture(s):	9	Private acres:	84
AMP implemented:	No	State acres:	0
Season of use:	03/01–10/15	Other Federal acres:	0
Active AUMs:	14,514	Total acres:	159,021
Suspended AUMs:	0		
Total AUMs:	14,514		

Existing grazing management objectives:

- Maintain the ecological condition of upland vegetative communities
- Maintain the integrity of research and study plots
- Maintain/improve the condition of riparian vegetative communities
- Protect facilities through livestock exclusion

Additional management emphasis:

- Owyhee NWSR
- Upper West Little Owyhee WSA, Owyhee Canyon WSA
- Bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	10	5
Pronghorn	100	50	87
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

- Antelope Creek (water quality assessment stream)
- Antelope Creek Tributary No. 6 (no identified water quality considerations)
- Field Creek (no identified water quality considerations)
- Antelope Creek Tributary No. 1 (no identified water quality considerations)
- Antelope Creek Tributary No. 2 (no identified water quality considerations)
- Antelope Creek Tributary No. 3 (no identified water quality considerations)
- Antelope Creek Tributary No. 4 (no identified water quality considerations)
- Antelope Creek Tributary No. 5 (no identified water quality considerations)
- Steer Canyon Tributary No. 2 (no identified water quality considerations)
- Trail Creek (no identified water quality considerations)
- West Little Owyhee River (water quality assessment stream)

Administratively suitable National Wild and Scenic Rivers:
Antelope Creek (Alternatives C, D)

BLM allotment name:	**SADDLE BUTTE**	Allotment number:	20805
Management category:	M	BLM acres:	175,579
Number of pasture(s):	7	Private acres:	8,844
AMP implemented:		State acres:	623
Season of use:	11/01–03/31	Other Federal acres:	4,250
Active AUMs:	6,426	Total acres:	189,296
Suspended AUMs:			
Total AUMs:			

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Maintain the integrity of research and study plots

Additional management emphasis:

Sand Springs HMA

Lower Owyhee WSA, Saddle Butte WSA

Owyhee NWSR

Owyhee River and Saddle Butte Lava Tubes ACECs

Special Status plants

Riparian habitat

Antelope winter range

California bighorn sheep

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	100	66
Pronghorn	225	465	259
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Crooked Creek (no identified water quality considerations)

Owyhee River (no identified water quality considerations)

Special Status plants:

Solitary milkvetch

Davis' peppergrass

Cusick's chaenactis

Special Status fish:

Redband trout

Proposed or existing ACEC:

- **Owyhee River (Alternative B)**
- **Palomino Playa (Alternatives A, C, D)**
- **Saddle Butte Lava Tubes (Alternatives B, C, D, E)**

BLM allotment name:	**WEST COW CREEK**	Allotment number:	20902
Management category:	M	BLM acres:	137,371
Number of pasture(s):	20	Private acres:	2,633
AMP implemented:	Yes	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	3,321
Active AUMs:	9,591	Total acres:	143,325
Suspended AUMs:	2,309		
Total AUMs:	11,900		

Existing grazing management objectives:

Maintain/improve the ecological condition of upland vegetative communities
Protect facilities through livestock exclusion
Some pastures containing private land are managed custodial with no management objective identified
Maintain the integrity of enclosures constructed for wildlife benefits
Maintain the integrity of research and study plots
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Lower Owyhee WSA, Jordan Craters WSA, Clarks Butte WSA
Owyhee NWSR
Owyhee River and Jordan Craters ACECs
RNA
Riparian habitat
Mule deer winter range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	350	138
Pronghorn	250	250	240
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Bogus Creek (no identified water quality considerations)
Owyhee River (no identified water quality considerations)
Jordan Creek (water quality assessment stream)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)
Owyhee Views (Alternatives C, D)
Jordan Craters (Alternatives B, C, D, E)

BLM allotment name:	**AROCK**	Allotment number:	21001
Management category:	M	BLM acres:	66,249
Number of pasture(s):	18	Private acres:	1,208
AMP implemented:	Yes	State acres:	1,227
Season of use:	04/01–10/15	Other Federal acres:	3,230
Active AUMs:	11,045	Total acres:	71,913
Suspended AUMs:	492		
Total AUMs:	11,537		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Owyhee River ACEC

Owyhee Canyon WSA

Owyhee NWSR

Mule deer winter range

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	450	130
Pronghorn	100	100	96
Elk	0	15	68

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**ANTELOPE**	Allotment number:	21002
Management category:	I	BLM acres:	51,443
Number of pasture(s):	19*	Private acres:	492
AMP implemented:	Yes	State acres:	0
Season of use:	04/01–09/30	Other Federal acres:	142
Active AUMs:	9,964	Total acres:	52,076
Suspended AUMs:			
Total AUMs:	9,964		

Existing grazing management objectives:

Reverse the downward trend of upland vegetative communities
Maintain the ecological condition of upland vegetative communities
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	300	94
Pronghorn	100	100	96
Elk	0	50	225

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Spring Creek (no identified water quality considerations)
Sheep Spring Creek Tributary No. 1 (no identified water quality considerations)
Willow Creek (no identified water quality considerations)
Tributary No. 1 To Antelope Reservoir (no identified water quality considerations)
Tributary No. 2 To Antelope Reservoir (no identified water quality considerations)
Tributary No. 3 To Antelope Reservoir (no identified water quality considerations)
Antelope Reservoir (water quality assessment stream) (no identified water quality considerations)

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* 15(w/ Antelope Reservoir 4)

BLM allotment name:	**RATTLESNAKE**	Allotment number:	21003
Management category:	C	BLM acres:	1,314
Number of pasture(s):	1	Private acres:	0
AMP implemented:	None	State acres:	1,837
Season of use:	Undefined	Other Federal acres:	625
Active AUMs:	374	Total acres:	3,775
Suspended AUMs:	0		
Total AUMs:	374		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities

Additional management emphasis:

Owyhee Canyon WSA

Owyhee NWSR

Owyhee River ACEC

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	50	23
Pronghorn	10	25	12
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Owyhee River (no identified water quality considerations)

Special Status fish:

Redband trout

Proposed or existing ACEC:

Owyhee River (Alternative B)

BLM allotment name:	**GILBERT**	Allotment number:	21301
Management category:	M	BLM acres:	55,581
Number of pasture(s):	5	Private acres:	508
AMP implemented:		State acres:	0
Season of use:	04/01-10/31	Other Federal acres:	0
Active AUMs:	4,480	Total acres:	56,089
Suspended AUMs:	0		
Total AUMs:	4,480		

Existing grazing management objectives:
- Maintain the ecological condition of upland vegetative communities
- Protect facilities through livestock exclusion
- Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:
- Deer and antelope summer range
- Bighorn sheep habitat along Rattlesnake Creek
- Small spring exclosures with unknown conditions

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	5	17
Pronghorn	100	25	83
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);
- Battle Creek Tributary No. 1 (no identified water quality considerations)
- Rattlesnake Creek (no identified water quality considerations)
- Woolhawk Canyon (no identified water quality considerations)
- Battle Creek (no identified water quality considerations)
- Battle Creek Tributary No. 3 (no identified water quality considerations)
- Deer Creek (no identified water quality considerations)
- Isaac Canyon (no identified water quality considerations)

Administratively suitable National Wild and Scenic Rivers:
- Rattlesnake Creek (Alternative D)

BLM allotment name:	**ECHAVE**	Allotment number:	21302
Management category:	M	BLM acres:	17,709
Number of pasture(s):	3	Private acres:	0
AMP implemented:	Yes	State acres:	0
Season of use:	05/01–10/15	Other Federal acres:	0
Active AUMs:	1,595	Total acres:	17,709
Suspended AUMs:	0		
Total AUMs:	1,595		

Existing grazing management objectives:

Maintain the ecological condition of upland vegetative communities
Reverse the downward trend of upland vegetative communities
Maintain the integrity of research and study plots
Maintain/improve the condition of riparian vegetative communities

Additional management emphasis:

Antelope summer range
Archeology

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	5	12
Pronghorn	125	0	98
Elk	0	0	0

Within bighorn sheep range

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2);

Little Rattlesnake Creek (no identified water quality considerations)
Rattlesnake Creek (no identified water quality considerations)
Rattlesnake Creek Tributary No. 1 (no identified water quality considerations)
Antelope Creek Tributary No. 2 (no identified water quality considerations)

Andrews Resource Area

BLM allotment name:	NORTH CATLOW	Allotment number:	06001
Management category:	I	BLM acres:	170,809
Number of pasture(s):	2	Private acres:	20,750
AMP implemented:	None	State acres:	0
Season of use:	04/01–12/31	Other Federal acres:	0
Active AUMs:	3,704	Total acres:	191,559
Suspended AUMs:	0		
Total AUMs:	3,704		

Existing grazing management objectives:

Improve/maintain vegetation conditions to benefit livestock and wildlife

Manage for diversity of wildlife habitat to provide for a variety of wildlife species

Additional management emphasis:

Forage production

Ecological condition

Antelope habitat

Riparian habitat (Rock Creek Reservoir)

Sage grouse

Noxious weeds

Water quality

Game fish habitat

Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities to the extent where they do not function normally

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	100	56
Pronghorn	150	100	14
Elk	0	0	0

BLM allotment name:	SOUTH STEENS	Allotment number:	06002
Management category:	I	BLM acres:	217,296
Number of pasture(s):	8	Private acres:	102,528
AMP implemented:	1995	State acres:	664
Season of use:	04/01–10/31; 11/15– 03/15	Other Federal acres:	0
Active AUMs:	21,197	Total acres:	331,617
Suspended AUMs:	0		
Total AUMs:	21,197		

Existing grazing management objectives:

Improve and maintain riparian habitat by increasing herbaceous and desired woody species (willows and associated species)

Manage uplands in a mosaic of native plant communities and seral stages that appear to be changing ecologically to a point of concern over future watershed integrity

Manage forage and water resources to provide quality habitat for wild horses in the South Steens HMA

Land and resource uses will be managed to provide habitat for viable populations of Special Status plant and animal species

Forage and water resources will be managed to provide sufficient qualities and quantities that will support a harvest on a sustained basis for livestock, wild horses, and wildlife

Manage land and resource uses within WSAs in a manner that will protect and enhance wilderness values within the scope of the IMP for land under wilderness review

Manage land and resource uses within the Donner und Blitzen NWSR to protect and improve resource conditions with special emphasis on the ORVs described in the NWSR management plan

Maintain or improve fisheries and aquatic habitat through changes in riparian vegetation within the allotment to enhance water temperatures, reduce peak flows, increase sustained flows, and reduce sedimentation

Manage vegetation to enhance or maintain a diverse habitat mosaic for a diversity of wildlife species. –Attention will be given to seasonal and yearly habitat requirements for all wildlife species

Reintroduce natural and prescribed fire as an ecosystem function to maintain watershed integrity, hydrologic function, achieve a mosaic of forage production and cover needs for wildlife and livestock and enhance the richness of plant and animal species

Additional management emphasis:

Game and sensitive fish habitat

Riparian

WSAs: Rincon, Alvord Peak, Basque Hills, South Fork Blitzen River, Home Creek, Blitzen River, High Steens, Little Blitzen Gorge

SMAs: Alvord Peak ACEC, Steens Mountain ACEC, Rooster Comb RNA

South Steens HMA

Wildlife habitat

Noxious weeds

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	2,400	1,150	514
Pronghorn	550	350	48
Elk	35	15	60

Proposed or existing ACEC:

North Catlow Rim

Catlow Redband Trout potential ACECs

BLM allotment name:	**FISH CR-BIG INDIAN**	**Allotment number:**	**06003**
Management category:	**I**	**BLM acres:**	**33,625**
Number of pasture(s):	**9**	**Private acres:**	**4,664**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/16-09/30**	**Other Federal acres:**	**0**
Active AUMs:	**1,978**	**Total acres:**	**38,289**
Suspended AUMs:	**0**		
Total AUMs:	**1,978**		

Existing grazing management objectives:

Provide 1978 AUMs of forage for livestock throughout the allotment as constrained by multiple use and sustained yield

Maintain or enhance water quality

Preserve wilderness values in WSAs

Maintain 12.7 miles and improve 5.7 miles of riparian on various creeks within the allotment. Determine condition and trend on 10.8 miles of riparian

Maintain or improve upland ecological status throughout the allotment

Maintain forage and cover for mule deer

Additional management emphasis:

Riparian

Fisheries

Mule deer habitat

Recreation

Ecological status of vegetation

WSAs: South Fork Donner und Blitzen River, Blitzen River

Elk habitat

Noxious weeds

Evaluations to be completed.

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**1,300**	**250**	**316**
Pronghorn	**35**	**0**	**3**
Elk	**15**	**0**	**26**

BLM allotment name:	**MUD CREEK**	Allotment number:	06005
Management category:	I	BLM acres:	8,247
Number of pasture(s):	2	Private acres:	0
AMP implemented:	None	State acres:	0
Season of use:	05/16–06/15	Other Federal acres:	0
Active AUMs:	590	Total acres:	9,332
Suspended AUMs:	0		
Total AUMs:	590		

Existing grazing management objectives:

Increase the percent of key species within key areas over ten years (Lower Pasture: increase squirreltail from 8 percent to 15 percent, maintaining current percentage of crested wheatgrass; upper Pasture, increase bluebunch wheatgrass from 5 percent to 10 percent and maintain squirreltail at 29 percent)

Maintain 2 miles of good condition riparian habitat on Bridge Creek. Improve one mile of poor and fair condition riparian habitat to good condition

Maintain or improve 2.2 miles of aquatic habitat in Bridge Creek presently in good condition

Improve 0.2-mile of aquatic habitat in Bridge Creek from poor condition to fair

Provide better quality forage for wildlife, especially deer

Maintain shrubs and junipers for thermal cover for wintering mule deer and elk; this objective is consistent with West Steens Deer Winter Range HMP and ODFW recommendation; control of wildfire essential to meet objectives; the reduction of juniper on deer winter range using prescribed fire and/or cutting will be evaluated.

Manage Bridge Creek WSA to maintain, protect and/or enhance the wilderness characteristics; manage under BLM's interim management policy and guidelines so as not to impair the suitability of the area for preservation as wilderness.

Additional management emphasis:

Forage production

Riparian and aquatic condition, water quality

Wildlife habitat

Bridge Creek WSA

Noxious weeds

Native and game fish habitat

Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities in abundances necessary for their continued existence and normal functioning

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	400	86
Pronghorn	20	30	5
Elk	5	0	9

BLM allotment name:	**FRAZIER FIELD**	**Allotment number:**	**06006**
Management category:	**I**	**BLM acres:**	**21,814**
Number of pasture(s):	**9**	**Private acres:**	**86**
AMP implemented:	**1991**	**State acres:**	**0**
Season of use:	**04/01–12/15**	**Other Federal acres:**	**0**
Active AUMs:	**1,906**	**Total acres:**	**20,815**
Suspended AUMs:	**0**		
Total AUMs:	**1,906**		

Existing grazing management objectives:

Maintain 1,906 AUMs for livestock, 108 AUMs for wild horses, and 58 AUMs for wildlife

Improve riparian condition of Mud Creek and Donner und Blitzen River

Improve and enhance aquatic habitat and water quality

Maintain wilderness characteristics

Improve ecological status of upland vegetation by year 2000 as follows:

Ecological status	Present %	Target %
PNC	0	0
Late seral	36.5	50.0
Mid-seral	56.7	43.2
Early seral	0	0
Good seeding	4.1	4.1
Other	2.7	2.7

Additional management emphasis:

- **Critical mule deer winter range**
- **HMA**
- **Blitzen River WSA**
- **Steens Mountain recreational lands**
- **High desert trail**
- **Donner und Blitzen NWSR**
- **Noxious weeds**
- **Water quality**
- **Game fish habitat**

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	1,500	311
Pronghorn	30	30	6
Elk	5	0	9

Special Status fish:

Redband trout

BLM allotment name:	**RUBY SPRINGS**	Allotment number:	06007
Management category:	1	BLM acres:	17,010
Number of pasture(s):	9	Private acres:	326
AMP implemented:	1991	State acres:	0
Season of use:	04/01-09/30	Other Federal acres:	38
Active AUMs:	2,466	Total acres:	17,374
Suspended AUMs:	0		
Total AUMs:	2,466		

Existing grazing management objectives:

Maintain and/or improve the condition of upland vegetation within the allotment over ten years as follows:

Pasture	Condition	Acres	Objective
#1 Ruby Springs	Excellent seeding	440	Maintain
	Good	710	Maintain
#2 Frazier Lake	Excellent seeding	1,342	Maintain
	Fair seeding	127	Maintain
	Late seral	344	Maintain
#3 Bird Reservoir	Late seral	1,395	Maintain
	Mid-seral	824	Improve
#4 Ruby Spring	Late seral	2,532	Maintain
	Late seral	3,409	Maintain
#6 Moon Hill	Late seral	729	Maintain
	Mid-seral	690	Improve
	Early seral	652	Improve
#7 East Seeding	Excellent seeding	386	Maintain
	Late seral	272	Maintain
#8 North Seeding	Excellent seeding	30	Maintain
	Good seeding	227	Maintain

Improve bitterbrush condition in Pasture 6 to a mixed stand of at lease 5 percent seedlings, young and mature plants over ten years

Improve riparian condition of 1.25 miles of McCoy Creek from poor to fair and 0.30 mile of unsurveyed portion of McCoy Creek by 2000 as represented by maintaining an upward trend in willow and herbaceous cover

Provide a total of 114 AUMs competitive forage for wildlife

Design vegetation manipulation projects to promote vegetation diversity over a mosaic landscape which benefits mule deer

Additional management emphasis:

Current range condition may be unacceptable.

Bitterbrush reproduction

Riparian/aquatic condition, water quality

Critical mule deer winter range

Noxious weeds

Sage grouse habitat

Archaeological values

Native/recreational fish habitat

Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities in abundances necessary for their continued existence and normal functioning

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	200	58
Pronghorn	50	50	2
Elk	10	10	36

Special Status fish:

Redband trout

BLM allotment name:	**KRUMBO**	Allotment number:	06008
Management category:	I	BLM acres:	14,698
Number of pasture(s):	11	Private acres:	850
AMP implemented:	None	State acres:	0
Season of use:	04/01–10/30	Other Federal acres:	205
Active AUMs:	3,150	Total acres:	15,753
Suspended AUMs:	0		
Total AUMs:	3,150		

Existing grazing management objectives:

Provide 3,150 AUMs of forage for livestock on public land throughout the allotment as constrained by sustained yield and multiple use

Maintain and/or improve ecological status

Provide 12 AUMs of competitive forage for wildlife

Additional management emphasis:

Forage production
Ecological condition
Noxious weeds
Antelope summer range
Riparian habitat
Sage grouse habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	50	11
Pronghorn	50	75	10
Elk	0	0	0

Historically, TNR AUMs have been licensed annually in this allotment for the crested wheatgrass seeding pastures; as a result of monitoring, annual allotment summaries, and the current allotment evaluation, this excess forage in the seedings would be considered to be converted to Active AUMs, to provide rest and/or deferment for the adjacent native range in the allotment

BLM allotment name:	**BLITZEN**	**Allotment number:**	**06009**
Management category:	1	**BLM acres:**	8,280
Number of pasture(s):	1	**State acres:**	0
AMP implemented:	None	**Private acres:**	2,360
Season of use:	12/01–02/28	**Other Federal acres:**	0
Active AUMs:	492	**Total acres:**	10,640
Suspended AUMs:	0		
Total AUMs:	492		

Existing grazing management objectives:

Maintain livestock forage production at 492 AUMs on public land throughout the allotment as constrained by sustained yield and multiple use

Improve ecological status of upland vegetation by the year 2000 as follows:

Ecological status	Present %	Target %
PNC	0	0
Late seral	15	19
Mid-seral	71	70
Early seral	13	10
Other	1	1

Additional management emphasis:

Forage production

Current range condition may be unacceptable

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	10	2
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**EAST RIDGE**	Allotment number:	06010
Management category:	I	BLM acres:	10,874
Number of pasture(s):	18	Private acres:	10,503
AMP implemented:	None	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	1,077	Total acres:	21,377
Suspended AUMs:	0		
Total AUMs:	1,077		

Existing grazing management objectives:

- Maintain and/or improve ecological status throughout the allotment
- Maintain or enhance water quality
- Preserve the wilderness characteristics in the High Steens WSA
- Maintain sagebrush and juniper cover for wintering mule deer
- Obtain an upward trend on streamside riparian vegetation

Additional management emphasis:

- Riparian habitat
- Fisheries
- Sage grouse habitat
- High Steens WSA
- Wildlife habitat
- Ecological status of vegetation
- Noxious weeds
- Water quality
  - Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities in abundances necessary for their continued existence and normal functioning
  - Allotment objectives are for Otley Brothers allotment, which was divided into East Ridge, West Slope and Chimney allotments

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	900	200	115
Pronghorn	20	20	2
Elk	25	25	44

BLM allotment name:	**POLLOCK**	**Allotment number:**	**06011**
Management category:	**I**	**BLM acres:**	**77,182**
Number of pasture(s):	**8**	**Private acres:**	**7,029**
AMP implemented:	**1991**	**State acres:**	**5,733**
Season of use:	**04/01–09/30; 11/01–12/31**	**Other Federal acres:**	**0**
Active AUMs:	**4,107**	**Total acres:**	**89,944**
Suspended AUMs:	**0**		
Total AUMs:	**4,107**		

Existing grazing management objectives:

Maintain forage production at 4107 AUMs for livestock, 408 AUMs for wild horses, and 54 AUMs for wildlife for 5 years at target utilization levels of 50 percent on spring/summer native range and 60 percent on winter range and in seedings; after 5 years, AUM totals may be adjusted in accordance with the identified target utilization levels

Improve ecological status of the upland vegetation as follows:

Ecological status	Present %	Target %
PNC	0	0
Late seral	29.6	38
Mid-seral	55	46.4
Early seral	2.8	0
Excellent seeding	0.2	0.2
Good seeding	4.4	5.6
Fair seeding	1.2	0
Other	6.8	6.8

Improve 0.75 mile of riparian vegetation along Stonehouse Creek

Maintain or enhance current populations of Astragalus solitarius and Lupinus biddlei

Maintain or enhance wilderness characteristics

Additional management emphasis:

Ecological status of vegetation

WSAs: Stonehouse, Sheepshead Mountains, Heath Lake, Table Mountain

HMA

Riparian

Wildlife habitat

Noxious weeds

Bighorn sheep

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	250	79
Pronghorn	75	75	12
Elk	0	0	0

BLM allotment name:	**ALVORD**	**Allotment number:**	06012
Management category:	1	**BLM acres:**	231,482
Number of pasture(s):	5	**Private acres:**	6228
AMP implemented: 1969- revised 1985		**State acres:**	163
Season of use:	11/15–03/31; 04/01–09/15	**Other Federal acres:**	0
Active AUMs:	6,972	**Total acres:**	237,873
Suspended AUMs:	1,892		
Total AUMs:	8,864		

Existing grazing management objectives:

Maintain or improve ecological status of the vegetation
Maintain the aesthetic and visual conditions of land and water
Prevent accelerated erosion
Maintain the natural diversity of wildlife by maintaining existing habitat, including adequate browse for mule deer within the Foothills pasture
Maintain naturalness, solitude, and primitive recreation
Increase production of livestock and wild horse forage resource improvements and changes in grazing systems

Additional management emphasis:

Riparian
WSAs: Alvord Desert, East Alvord, Winter Range, Table Mountain, Wildcat Canyon
RNAs: Mickey Basin, South Fork Willow Creek
HMA
Recreation
Deer winter range
Bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	650	850	244
Pronghorn	150	150	20
Elk	0	0	0

Special Status plants:

Davis' peppergrass

Proposed or existing ACEC:

Alvord Desert ACEC
Steens Mountain ACEC
Potential Mickey Hot Springs
Big Alvord Creek

BLM allotment name:	**WILDHORSE CANYON**	**Allotment number:**	**06013**
Management category:	**I**	**BLM acres:**	**5,035**
Number of pasture(s):	**4**	**Private acres:**	**34**
AMP implemented:	**None**	**State acres:**	**268**
Season of use:	**Season has not been set**	**Other Federal acres:**	**0**
Active AUMs:	**218**	**Total acres:**	**5,337**
Suspended AUMs:	**0**		
Total AUMs:	**218**		

Existing grazing management objectives:

Management objectives have not been determined

Additional management emphasis:

- **High Steens WSA**
- **Riparian habitat**
- **Wildlife habitat**
- **Ecological status of vegetation**
- **Noxious weeds**
- **Water quality**
- **Game fish habitat**
- **Permit acquired in 1989 with Wildhorse exchange; no decision if grazing will resume**

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	**250**	**0**	**48**
Pronghorn	**0**	**0**	**0**
Elk	**0**	**0**	**0**

Within range of bighorn sheep

BLM allotment name:	**TUM TUM**	**Allotment number:**	**00014**
Management category:	**M**	**BLM acres:**	**7,363**
Number of pasture(s):	**2**	**Private acres:**	**693**
AMP implemented:	**1984**	**State acres:**	**0**
Season of use:	**11/15– 03/31**	**Other Federal acres:**	**0**
Active AUMs:	**360**	**Total acres:**	**8,056**
Suspended AUMs:	**0**		
Total AUMs:	**360**		

Existing grazing management objectives:

Additional management emphasis:

Maintain forage production for livestock at 360 AUMs throughout the allotment as constrained by sustained yield and multiple use

Improve ecological condition of fair status to good within 15 years

Water quality

Contains forage in excess of active preference

Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities in abundances necessary for their continued existence and normal functioning

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	25	9
Pronghorn	0	0	1*
Elk	0	0	0

Proposed or existing ACEC:

Tum Tum RNA/ACEC

BLM allotment name:	**TROUT CREEK**	Allotment number:	06015
Management category:	I	BLM acres:	91,382
Number of pasture(s):	17	Private acres:	2,967
AMP implemented:	1985, modified by TC Mtn. dec.	State acres:	0
		Other Federal acres:	0
Season of use:	04/01–09/30; 11/01–02/28		
Active AUMs:	8,852	Total acres:	94,349
Suspended AUMs:	0		
Total AUMs:	8,852		

Existing grazing management objectives:

Utilization of key specie using the Key Forage Plant Utilization Method will not exceed the moderate utilization (50 percent) class on a pasture by pasture basis when pastures are grazed during the critical growing season (04/15–07/01); for those pastures being grazed prior to 04/15 and after 07/01, utilization will not exceed the 50 percent level unless the ecological status objective is to be maintained verses improved

Improve ecological status from early and mid-seral to mid-seral and late seral, respectively, by the year 2000

Increase Biotic Contidion index (BCI) to 90, Standing Crop to 4.0, and Diversity Index to 17.0 by year 2000 (Aquatic Ecosystem Inventory Macroinvertebrate Analysis USFS)

Improve fish habitat condition to good by the year 2000 stabilizing stream banks, increasing instream cover and reducing fines in the substrate

Improve riparian habitat condition to good by the year 2000 by stabilizing streambank erosion and increasing woody species (especially willow) cover

Improve mountain meadow condition to good by the year 2000

Limit utilization of bitterbrush within the Red Mountain and No Name Pastures to light use class on current year's growth (measured by Modified Cole Browse Method)

Do not allow for manipulation of the shrub component within the deer winter range except in those areas previously seeded to crested wheatgrass and/or allow for small controlled burns not exceeding 0.25 mile in width, manipulating the present shrubby vegetation to a herbaceous cover to improve and increase winter-spring forage

Maintain the population of Federally listed, proposed and candidate species of solitary milkvetch, prostrate buckwheat, and nodding melic

Maintain wilderness characteristics of the Red Mountain, Mahogany Ridge, Willow Creek, and Disaster Peak WSAs

Maintain quality recreation (as riparian zones, meadows, and upland conditions improve, the quality of recreation will improve

Game fish habitat

Additional management emphasis:

WSAs: Mahogany Ridge, Red Mountain, Willow Creek, Disaster Peak

Critical deer summer and winter range

Critical antelope winter range

Sage grouse

Riparian/meadow condition

Fisheries

Water quality

Bighorn sheep

Wyoming big sage density is increasing; fire may be needed

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	1,400	1,000	484
Pronghorn	150	100	18
Elk	0	0	0

BLM allotment name:	**SANDHILLS**	Allotment number:	06016
Management category:	M	BLM acres:	17,994
Number of pasture(s):	7	Private acres:	152
AMP implemented:	1985 modified 1989 by TC Mtn. decision	State acres:	0
		Other Federal acres:	0
Season of use:	03/0-02/28		
Active AUMs:	2,294	Total acres:	18,146
Suspended AUMs:	0		
Total AUMs:	2,294		

Existing grazing management objectives:

Maintain livestock forage production at 2,294 AUMs on public land

Maintain browse for deer on Holloway Mountain

Maintain livestock utilization of moderate to ensure enough litter to retard soil erosion, specifically wind erosion of sandy soils

Additional management emphasis:

Deer winter range

Upland vegetation condition

Soil erosion

Antelope range

Water quality

Potential bighorn sheep habitat

A portion of allotment is in Nevada, within the Paradise-Denio EIS area

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	0	10
Pronghorn	25	40	5
Elk	0	0	0

BLM allotment name:	**GRASSY BASIN**	Allotment number:	06017
Management category:	M	BLM acres:	6,968
Number of pasture(s):	7	Private acres:	3,133
AMP implemented: 1968-modified 1985		State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	942	Total acres:	10,101
Suspended AUMs:	0		
Total AUMs:	942		

Existing grazing management objectives:

Maintain livestock forage production at 942 AUMs on public land

Improve poor and fair condition to fair and good within 15 years

Additional management emphasis:

Deer summer and winter range

Antelope summer range

Upland vegetation

Livestock forage production

Riparian

A portion of this allotment is in Nevada, Paradise-Denio EIS area

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	100	18
Pronghorn	10	10	2
Elk	0	0	0

BLM allotment name:	**TULE SPRINGS**	Allotment number:	06018
Management category:	I	BLM acres:	133,641
Number of pasture(s):	8	Private acres:	12,890
AMP implemented:	1969-modified 1989	State acres:	0
Season of use:	10/01-03/31	Other Federal acres:	3,356
Active AUMs:	5,506	Total acres:	149,887
Suspended AUMs:	0		
Total AUMs:	5,506		

Existing grazing management objectives:

Maintain forage production for livestock at 5,506 AUMs as constrained by sustained yield and multiple use

Maintain 480 AUMs of forage for wild horses throughout that portion of the HMA within the Tule Springs allotment

Additional management emphasis:

Wild horses

Bighorn sheep

Serrano Point RNA (potential)

Alvord Desert WSA

Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	300	300	108
Pronghorn	150	150	34
Elk	0	0	0

Special Status plants:

Solitary milkvetch

Special Status fish:

Borax Lake chub

Proposed or existing ACEC:

Alvord Desert

Borax Lake

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* Complex of allotments 6001, 6029, 6030, and other FFR.

BLM allotment name:	**SERRANO POINT**	Allotment number:	06019
Management category:	I	BLM acres:	16,404
Number of pasture(s):	5	Private acres:	830
AMP implemented:	None	State acres:	0
Season of use:	04/01-06/15	Other Federal acres:	0
Active AUMs:	500	Total acres:	17,234
Suspended AUMs:	0		
Total AUMs:	500		

Existing grazing management objectives:
- Maintain or improve riparian habitat
- Maintain browse on deer winter range
- Improve ecological status of upland vegetation

Additional management emphasis:
- Riparian habitat
- Ecological status of vegetation
- Wildlife habitat
- Bighorn sheep
- Water quality
- High desert trail
- Alvord Desert WSA
- Game fish habitat
- Allotment initiated in 1990 by division of Andrews Community allotment and has not been formally evaluated

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	350	107
Pronghorn	20	20	4
Elk	0	0	0

BLM allotment name:	**PUEBLO LONE MTN**	Allotment number:	06020
Management category:	I	BLM acres:	268,623
Number of pasture(s):	12	Private acres:	5,301
AMP implemented:	1996	State acres:	0
Season of use:	04/01–10/15; 11/01–02/28	Other Federal acres:	0
Active AUMs:	17,964	Total acres:	273,924
Suspended AUMs:	0		
Total AUMs:	17,964		

Existing grazing management objectives:

The riparian condition of the sites with medium to high potential that are currently rated poor to fair will be in a condition to be rated good to excellent within 15 years after implementation of RMP

Upland sites will have a stable or improving ecological condition within 15 years of implementation of the AMP

Deteriorating upland meadow sites will be improving while other upland meadow sites will be stable or improving within 10 years of implementation of AMP

Additional management emphasis:

WSAs: Hawk Mountain, Rincon, Basque Hills, Pueblo Mountain
Bighorn sheep
Riparian habitat
Critical deer winter range
Sage grouse habitat
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	1,000	700	350
Pronghorn	250	250	42
Elk	0	0	0

Special Status fish:

Lahontan cutthroat trout

Proposed or existing ACEC:

Long Draw
Pueblo Foothills
Tum Tum

BLM allotment name:	**PUEBLO MTN**	Allotment number:	06021
Management category:	I	BLM acres:	8,186
Number of pasture(s):	5	Private acres:	624
AMP implemented:	No	State acres:	0
Season of use:		Other Federal acres:	0
Active AUMs:	323	Total acres:	8,810
Suspended AUMs:	0		
Total AUMs:	323		

Existing grazing management objectives:

Additional management emphasis:
Bitterbrush/mountain mahogany
Water quality
Managed by Nevada (part of a large individual allotment with grazing system)

Additional management considerations with implementation of proposed RMP alternatives:
Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	50	28
Pronghorn	10	0	1
Elk	0	0	0

Special Status fish:
Lahontan cutthroat trout habitat

BLM allotment name:	**KINGS RIVER**	**Allotment number:**	06022
Management category:	I	**BLM acres:**	1746
Number of pasture(s):	1	**Private acres:**	0
AMP implemented:	None	**State acres:**	0
Season of use:		**Other Federal acres:**	0
Active AUMs:	113	**Total acres:**	1,746
Suspended AUMs:	0		
Total AUMs:	113		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	0	10
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**HAMMOND**	Allotment number:	06023
Management category:	I	BLM acres:	11,488
Number of pasture(s):	12	Private acres:	1,995
AMP implemented:	None	State acres:	0
Season of use:	04/01–07/15	Other Federal acres:	624
Active AUMs:	473	Total acres:	14,107
Suspended AUMs:	0		
Total AUMs:	473		

Existing grazing management objectives:

Maintain and/or improve the ecological status of key areas within the allotment over 10 years as follows:

Pasture	Condition	Objective
North Dutchoven	Excellent seeding	Maintain
Krumbo Creek	Mid-seral	Improve
Kern Reservoir	Mid-seral	Improve
Webb Springs	Excellent seeding	Maintain
Knox Spring	Excellent seeding	Maintain
Larkspur	Excellent seeding	Maintain
Landing Strip	Excellent/good seeding	Maintain
South Dutchoven	Excellent seeding	Maintain
Hole-in-the-Ground	Excellent/good seeding	Maintain
Artesian	Late seral	Maintain

Improve riparian and fisheries habitat along Krumbo Creek to good condition.

Manage Bridge Creek WSA to protect or enhance wilderness characteristics, manage under IMP and guidelines to not impair the suitability for wilderness

Provide 15 AUMs of competitive forage for wildlife

Additional management emphasis:

Critical mule deer winter range

Bridge Creek WSA

Noxious weeds

Water quality

Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	50	150	33
Pronghorn	60	20	6
Elk	0	0	0

Historically, TNR AUMs have been licensed annually in this allotment for the crested wheatgrass seeding pastures; as a result of monitoring, annual allotment summaries and the current allotment evaluation, this excess forage in the seedings would be considered to be converted to Active AUMs, to provide rest and/or deferment for the adjacent native range in the allotment.

Special Status fish:
Redband trout

BLM allotment name:	**SOUTH FORK**	**Allotment number:**	**06024**
Management category:	**M**	**BLM acres:**	**398**
Number of pasture(s):	**1**	**Private acres:**	**123**
AMP implemented:	**1991**	**State acres:**	**0**
Season of use:	**04/15–05/14**	**Other Federal acres:**	**0**
Active AUMs:	**40**	**Total acres:**	**521**
Suspended AUMs:	**0**		
Total AUMs:	**40**		

Existing grazing management objectives:

- **Maintain livestock forage production at 40 AUMs**
- **Improve riparian condition from fair to good**
- **Improve riparian condition from poor to good within 10 years**
- **Maintain the late seral status of the uplands**

Additional management emphasis:

- **Riparian habitat**
- **Potential bighorn sheep habitat**

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	10	10	1
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**HARDIE SUMMER**	Allotment number:	06025
Management category:	I	BLM acres:	2,323
Number of pasture(s):	2	Private acres:	3,928
AMP implemented:	1991	State acres:	0
Season of use:	06/15-09/30	Other Federal acres:	0
Active AUMs:	408	Total acres:	6,251
Suspended AUMs:	0		
Total AUMs:	408		

Existing grazing management objectives:

Provide 408 AUMs of forage for livestock and 10 AUMs of wildlife forage on public land throughout the allotment as constrained by sustained yield and multiple use

Improve ecological status of the upland vegetation by the year 2000 as below:

Ecological status	Present %	Target %
PNC	0	3
Late seral	62	70
Mid-seral	37	26
Early seral	0	0
Other	1	1

Maintain mule deer cover

Additional management emphasis:

Forage production
Mule deer habitat
Ecological condition
Noxious weeds
Riparian/aquatic condition of Big Fir Creek
Elk habitat
Water quality
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	400	25	32
Pronghorn	15	0	1
Elk	15	0	10

BLM allotment name:	**MANN LAKE**	**Allotment number:**	06026
Management category:	1	**BLM acres:**	38,038
Number of pasture(s):	7	**Private acres:**	1,539
AMP implemented:	None	**State acres:**	0
Season of use:	04/16-06/30; 11/15-03/15	**Other Federal acres:**	0
Active AUMs:	3,670	**Total acres:**	39,577
Suspended AUMs:	0		
Total AUMs:	3,670		

Existing grazing management objectives:

Provide 3,670 AUMs of forage for livestock throughout the allotment as constrained by multiple use and sustained yield
Provide 65 AUMs for wildlife throughout the allotment
Maintain bighorn sheep habitat in the South Foothills Pasture
Maintain or enhance water quality along Castle Rock, Little McCoy, House, Mosquito, and Mann Creeks
Preserve and maintain wilderness characteristics
Maintain browse production on deer winter range
Provide nesting cover for waterfowl and other water associated birds
Preserve the terrestrial ecosystem of East Kiger Plateau RNA
Maintain or enhance upland ecological status
Maintain or enhance the population of Federal candidate Biddle's lupine
Maintain or enhance riparian vegetative condition on House, Little McCoy, Mann, Castle Rock, and Mosquito creeks

Additional management emphasis:

Fisheries
Recreation
Wildlife habitat
Game fish habitat
Ecological status of vegetation
Noxious weeds
WSAs: Lower Stonehouse, West Peak, High Steens
Water quality
Mann Lake recreation is increasing

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	250	400	110
Pronghorn	40	40	6
Elk	10	0	15

Within bighorn sheep range

Special Status plants:
Biddle's lupine

Special Status fish:
Lahontan cutthroat trout

* Demand is 18 percent of North Catlow.

BLM allotment name:	**CARLSON CREEK**	**Allotment number:**	**06027**
Management category:	**I**	**BLM acres:**	**5,494**
Number of pasture(s):	**1**	**Private acres:**	**7,385**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/15–05/31**	**Other Federal acres:**	**0**
Active AUMs:	**467**	**Total acres:**	**12,879**
Suspended AUMs:	**0**		
Total AUMs:	**467**		

Existing grazing management objectives:

Maintain and/or improve riparian habitat

Maintain good condition bighorn sheep summer range in the Alvord Peak area

Maintain browse on deer winter range

Improve ecological status of upland vegetation

Additional management emphasis:

Alvord Peak WSA

Bighorn sheep habitat

Wildlife habitat

Ecological status of vegetation

Noxious weeds

Critical deer winter range

Allotment created in 1990 by division of Andrews Community Allotment and has not undergone formal evaluation

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	250	29
Pronghorn	20	20	2
Elk	0	0	0

BLM allotment name:	**MINER'S FIELD**	Allotment number:	06028
Management category:	I+	BLM acres:	26,257
Number of pasture(s):	6	Private acres:	952
AMP implemented:	None	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	50
Active AUMs:	1,017	Total acres:	27,259
Suspended AUMs:	808		
Total AUMs:	1,825		

Existing grazing management objectives:

Maintain 1,825 AUMs of livestock forage on public land throughout the allotment as constrained by multiple use and sustained yield

Maintain browse on the deer winter range and improve the condition of bitterbrush in the Miner's Field Pasture from the present no seedlings to 5 percent seedlings and reduce the percentage of decadent plants from the present 8 percent to 2 percent; improve the condition of bitterbrush in the O'Keefe Field Pasture from all mature plants at present to 5 percent seedlings, 15 percent young plants and 80 percent mature plants.

Improve the ecological status of the upland vegetation by the year 2000 as follows:

Ecological status	Present %	Target %
PNC	0	5
Late seral	24	35
Mid-seral	55	43
Early seral	9	5
Fair seeding	3	3
Other	9	5

Improve the riparian condition of Bone, Schouver, and Pass Creek by 1997 (miles):

Condition	From	To
Excellent	0	0
Good	1	2
Fair	2.9	2.5
Poor	1.1	0.5

Manage the good condition of bighorn sheep summer range in the Alvord Peak ACEC

Additional management emphasis:

A total of 808 AUMs were cancelled by decision for violation of terms and conditions of license; decision dated March 4, 1996 cancelled the remainder (1,017 AUMs) for the same cause; this decision is currently under appeal

Antelope range

Deer summer and winter range

Bighorn sheep range

Alvord Peak WSA

High desert trail

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	75	100	33
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**KEG SPRINGS**	**Allotment number:**	**0602**
Management category:	**I**	**BLM acres:**	**40,640**
Number of pasture(s):	**2**	**Private acres:**	**524**
AMP implemented:	**1991**	**State acres:**	**0**
Season of use:	**04/01-09/30**	**Other Federal acres:**	**0**
Active AUMs:	**1,791**	**Total acres:**	**41,164**
Suspended AUMs:	**0**		
Total AUMs:	**1,791**		

Existing grazing management objectives:

Provide 1,791 AUMs of forage for livestock on public land throughout the allotment as constrained by sustained yield and multiple use

Improve the ecological status of the uplands by the year 2000 as follows:

Ecological status	**Present %**	**Target %**
PNC	**0**	**3**
Late seral	**53**	**63**
Mid-seral	**34**	**30**
Early seral	**5**	**3**
Burn	**7**	**0**
Other	**1**	**1**

Provide 5 AUMs of competitive forage for wildlife

Additional management emphasis:

Forage production
Ecological condition
Sage grouse habitat
Antelope habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	8	8	13
Pronghorn			
Elk			

BLM allotment name:	**REICHENS CORNER**	Allotment number:	06030
Management category:	M	BLM acres:	8,835
Number of pasture(s):	3	Private acres:	1,006
AMP implemented:	1991	State acres:	0
Season of use:	04/01–10/31	Other Federal acres:	0
Active AUMs:	688	Total acres:	9,841
Suspended AUMs:			
Total AUMs:	688		

Existing grazing management objectives:

Provide 688 AUMs of forage for livestock on public land throughout the allotment as constrained by sustained yield and multiple use

Provide 7 AUMs of competitive forage for wildlife

Improve ecological status of the uplands as follows by the year 2000:

Ecological status	Present %	Target %
PNC	0	3
Late seral	31.9	48
Mid-seral	54.6	49
Early seral	0.1	0
Burn	13.2	0
Other	0.1	0.1

Additional management emphasis:

Forage production

Ecological condition

Noxious weeds

Antelope habitat

Additional management considerations with implementation of proposed RMP alternatives:

Historically, TNR AUMs have been licensed annually in this allotment for the crested wheatgrass seeding pastures; as a result of monitoring, annual allotment summaries and the current allotment evaluation, this excess forage in the seedings would be considered to be converted to Active AUMs, to provide rest and/or deferment for the adjacent native range in the allotment

BLM allotment name:	**LAVOY TABLES**	**Allotment number:**	**06031**
Management category:	**I**	**BLM acres:**	**41,739**
Number of pasture(s):	**4**	**Private acres:**	**710**
AMP implemented:	**1991**	**State acres:**	**0**
Season of use:	**04/01–10/31**	**Other Federal acres:**	**993**
Active AUMs:	**2,373**	**Total acres:**	**43,442**
Suspended AUMs:	**0**		
Total AUMs:	**2,373**		

Existing grazing management objectives:

Provide 2,373 AUMs for livestock, 36 AUMs for wild horses and 60 AUMs for wildlife as constrained by sustained yield and multiple use

Maintain and/or improve ecological status of the allotment

Maintain wilderness characteristics within the Blitzen River WSA

Additional management emphasis:

Forage production

Ecological condition

Blitzen River WSA

Sage grouse habitat

Noxious weeds

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**100**	**600**	**136**
Pronghorn	**50**	**30**	**7**
Elk	**0**	**0**	**0**

Proposed or existing ACEC:

Pickett Rim ACEC

BLM allotment name:	KRUMBO MTN.	Allotment number:	06032
Management category:	I	Number of pasture(s):	2
BLM acres:	17547	Private acres:	15
AMP implemented:	1991	State acres:	0
Season of use:	05/15–09/30	Other Federal acres:	0
Active AUMs:	1,059	Total acres:	17,562
Suspended AUMs:	0		
Total AUMs:	1,059		

Existing grazing management objectives:

Provide 1,059 AUMs of forage for livestock on public land throughout the allotment as constrained by sustained yield and multiple use

Maintain and/or improve ecological status of the allotment

Provide 54 AUMs of competitive forage for wildlife

Maintain wilderness characteristics within the Bridge Creek Wilderness Study Area

Additional management emphasis:

Forage production
Ecological condition
Bridge Creek WSA
Noxious weeds
Elk summer range
Sage grouse habitat
Native fish habitat
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	100	150	43
Pronghorn	40	10	4
Elk	10	7	30

BLM allotment name:	**CHIMNEY**	Allotment number:	06033
Management category:	1	BLM acres:	14,789
Number of pasture(s):	9	Private acres:	9,444
AMP implemented:	None	State acres:	0
Season of use:	04/16–10/31	Other Federal acres:	0
Active AUMs:	2,015	Total acres:	24,233
Suspended AUMs:	0		
Total AUMs:	2,015		

Existing grazing management objectives:

Maintain and/or improve ecological status throughout the allotment
Maintain or enhance water quality
Preserve wilderness characteristics within the High Steens WSA
Maintain cover (sagebrush and juniper) for wintering mule deer
Maintain habitat for Castilleja steensis candidate species near Kiger overlook and west to the head of McCoy Creek
Obtain an upward trend on 20.98 miles of streamside riparian vegetation

Additional management emphasis:

Riparian habitat
Fisheries habitat
High Steens WSA
Wildlife habitat
Ecological status of vegetation
Noxious weeds
Allotment objectives are for Otley Brothers allotment which was divided into East Ridge, West Slope, and Chimney allotments
Common boundary with Steens Summit nonuse area is unfenced which allows cattle to drift into nonuse area
Native and/or game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	1,000	200	149
Pronghorn	70	20	6
Elk	25	10	38

BLM allotment name:	WEST SLOPE	Allotment number:	06034
Management category:	I	BLM acres:	3,328
Number of pasture(s):	5	Private acres:	8,137
AMP implemented:	None	State acres:	0
Season of use:	06/01–10/31	Other Federal acres:	0
Active AUMs:	562	Total acres:	11,465
Suspended AUMs:	0		
Total AUMs:	562		

Existing grazing management objectives:

Maintain and/or improve ecological status throughout the allotment

Maintain or enhance water quality

Preserve wilderness characteristics in the High Steens WSA

Maintain sagebrush and juniper cover for wintering mule deer

Obtain an upward trend on streamside riparian vegetation

Additional management emphasis:

Riparian habitat

High Steens WSA

Wildlife habitat

Ecological status of vegetation

Noxious weeds

Water quality

Native fish habitat

Allotment objectives are from Otley Brothers allotment which was divided into East Ridge, West Slope, and Chimney allotments

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	600	100	41
Pronghorn	50	0	1
Elk	25	5	16

BLM allotment name:	**FIELDS BASIN**	**Allotment number:**	**06035**
Management category:	**I**	**BLM acres:**	**33,576**
Number of pasture(s):	**6**	**Private acres:**	**1958**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**3,866**	**Total acres:**	**35,534**
Suspended AUMs:	**0**		
Total AUMs:	**3,866**		

Existing grazing management objectives:

None

Additional management emphasis:

Bitterbrush

Deer summer range

Bighorn sheep

Sage grouse

Water quality

Ensure that vegetation conversions (burning, spraying, chaining, seeding, etc.) do not reduce the variety of plant species or communities in abundances necessary for their continued existence and normal functioning

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	50	49
Pronghorn	70	40	7
Elk	0	0	0

BLM allotment name:	**PENLAND**	**Allotment number:**	06036
Management category:	C	**BLM acres:**	2,369
Number of pasture(s):	4	**Private acres:**	120
AMP implemented:	None	**State acres:**	0
Season of use:	06/15–09/15	**Other Federal acres:**	0
Active AUMs:	Unallotted 1,000	**Total acres:**	2,489
Suspended AUMs:	0		
Total AUMs:	1,000		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Riparian

Should be maintained as farmland

Target for exchange for Steens and Pueblo properties

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**BRIDGE CREEK**	Allotment number:	06037
Management category:	I	BLM acres:	3,055
Number of pasture(s):	2	Private acres:	488
AMP implemented:	No	State acres:	0
Season of use:	To be determined	Other Federal acres:	0
Active AUMs:	0	Total acres:	3,543
Suspended AUMs:	0		
Total AUMs:	0		

Existing grazing management objectives:

None

Additional management emphasis:

Bridge Creek Allotment consists of two parcels of newly acquired land (Witzel, 1993 and Thompson, 1994)

Planning is still in the inventory phase. Some has been grazed to accomplish riparian objectives in the Hardie Summer Allotment (6025)

Riparian habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	0	0	8
Pronghorn	0	0	0
Elk	10	8	32

Proposed or existing ACEC:

Fir Groves potential ACEC

BLM allotment name:	**SCHOUVER FLAT**	**Allotment number:**	**06038**
Management category:	**M**	**BLM acres:**	**1,305**
Number of pasture(s):	**1**	**Private acres:**	**0**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:		**Other Federal acres:**	**0**
Active AUMs:	**120**	**Total acres:**	**1,305**
Suspended AUMs:	**0**		
Total AUMs:	**120**		

Existing grazing management objectives:

Maintain seeding production at present levels

Additional management emphasis:

Sagebrush encroachment into existing seeding
Seeding in poor condition
Riparian
Water quality
Bighorn sheep

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**STONEHOUSE**	Allotment number:	06040

Management category:	I	BLM acres:	10,392
Number of pasture(s):	1	Private acres:	442
AMP implemented:	None	State acres:	0
Season of use:	06/15– 09/15	Other Federal acres:	0
Active AUMs:	2,100	Total acres:	10,834
Suspended AUMs:	0		
Total AUMs:	2,100		

Existing grazing management objectives:

- Maintain or improve ecological status of vegetation
- Maintain the aesthetic and visual conditions of land and water
- Prevent accelerated erosion
- Maintain the natural diversity of wildlife by maintaining existing habitat
- Maintain naturalness, solitude and primitive recreation
- Increase production of livestock forage through resource improvements and changes in grazing systems

Additional management emphasis:

- Riparian
- Wetland meadows
- WSAs: Lower Stonehouse, Stonehouse
- Fisheries
- Sage grouse habitat
- Upland vegetation seral stages
- Bighorn sheep
- Water quality
- Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	0	39
Pronghorn	240	0	3
Elk	10	0	17

BLM allotment name:	**WALDKIRCH FFR**	**Allotment number:**	06101
Management category:	C	**BLM acres:**	29
Number of pasture(s):	1	**Private acres:**	324
AMP implemented:	None	**State acres:**	0
Season of use:	12/01–12/30	**Other Federal acres:**	0
Active AUMs:	12	**Total acres:**	353
Suspended AUMs:	0		
Total AUMs:	12		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**OREGON END FFR**	**Allotment number:**	**06102**
Management category:	**C**	**BLM acres:**	**1,646**
Number of pasture(s):	**3**	**Private acres:**	**838**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**03/29-04/15**	**Other Federal acres:**	**0**
Active AUMs:	**138**	**Total acres:**	**2,484**
Suspended AUMs:	**0**		
Total AUMs:	**138**		

Existing grazing management objectives:

None

Additional management emphasis:

Meadows

Water quality

Potential bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**WILEY FFR**	**Allotment number:**	06103
Management category:	C	**BLM acres:**	38
Number of pasture(s):	1	**Private acres:**	1,137
AMP implemented:	None	**State acres:**	0
Season of use:	04/01–06-30	**Other Federal acres:**	0
Active AUMs:	6	**Total acres:**	1,175
Suspended AUMs:	0		
Total AUMs:	6		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**DEFENBAUGH FFR**	**Allotment number:**	**06104**
Management category:	**C**	**BLM acres:**	**1,273**
Number of pasture(s):	**2**	**Private acres:**	**2,660**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**05/01-05/30**	**Other Federal acres:**	**0**
Active AUMs:	**60**	**Total acres:**	**3,933**
Suspended AUMs:	**0**		
Total AUMs:	**60**		

Existing grazing management objectives:

Additional management emphasis:
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:
None

BLM allotment name:	**WRENCH RANCH FFR**	**Allotment number:**	**06105**
Management category:	**C**	**BLM acres:**	**388**
Number of pasture(s):	**4**	**Private acres:**	**4,544**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**10/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**51**	**Total acres:**	**4,932**
Suspended AUMs:	**0**		
Total AUMs:	**51**		

Existing grazing management objectives:

None

Additional management emphasis:

Riparian habitat
Water quality
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**ORLANDO FFR**	**Allotment number:**	**06106**
Management category:	**C**	**BLM acres:**	**1,778**
Number of pasture(s):	**7**	**Private acres:**	**6,658**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**05/02–09/30**	**Other Federal acres:**	**0**
Active AUMs:	**320**	**Total acres:**	**8,436**
Suspended AUMs:	**0**		
Total AUMs:	**320**		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality
Riparian habitat
Sage grouse habitat
Potential bighorn sheep habitat

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**CRUMP/CALD FFR**	**Allotment number:**	06107
Management category:	C	**BLM acres:**	224
Number of pasture(s):	3	**Private acres:**	1,407
AMP implemented:	None	**State acres:**	0
Season of use:	05/01–05/30	**Other Federal acres:**	0
Active AUMs:	12	**Total acres:**	1,631
Suspended AUMs:	0		
Total AUMs:	12		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**HENRICKS FFR**	**Allotment number:**	**06108**
Management category:	**C**	**BLM acres:**	**133**
Number of pasture(s):	**2**	**Private acres:**	**861**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**10/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**30**	**Total acres:**	**994**
Suspended AUMs:	**0**		
Total AUMs:	**30**		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	25	20	1
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**CASEY FFR**	**Allotment number:**	06109
Management category:	C	**BLM acres:**	381
Number of pasture(s):	1	**Private acres:**	246
AMP implemented:	None	**State acres:**	0
Season of use:	04/16–11/16	**Other Federal acres:**	0
Active AUMs:	21	**Total acres:**	627
Suspended AUMs:	0		
Total AUMs:	21		

Existing grazing management objectives:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**STILL FFR**	**Allotment number:**	**06110**
Management category:	**C**	**BLM acres:**	**311**
Number of pasture(s):	**3**	**Private acres:**	**2,990**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**12/01–12/30**	**Other Federal acres:**	**0**
Active AUMs:	**68**	**Total acres:**	**3,301**
Suspended AUMs:	**0**		
Total AUMs:	**68**		

Existing grazing management objectives:

None

Additional management emphasis:

Riparian habitat

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**DUNBAR FFR**	**Allotment number:**	**06111**
Management category:	**C**	**BLM acres:**	**519**
Number of pasture(s):	**2**	**Private acres:**	**2,026**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–11/15**	**Other Federal acres:**	**0**
ive AUMs:	**68**	**Total acres:**	**2,545**
Suspended AUMs:	**0**		
Total AUMs:	**68**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**LONG HOLLOW FFR**	**Allotment number:**	**06112**
Management category:	**C**	**BLM acres:**	**834**
Number of pasture(s):	**2**	**Private acres:**	**1,290**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/16–11/16**	**Other Federal acres:**	**0**
Active AUMs:	**103**	**Total acres:**	**2,124**
Suspended AUMs:	**0**		
Total AUMs:	**103**		

Existing grazing management objectives:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**HAMMOND FFR**	**Allotment number:**	**6100**
Management category:	**C**	**BLM acres:**	**264**
Number of pasture(s):	**4**	**Private acres:**	**6,461**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01 – 04/30**	**Other Federal acres:**	**0**
Active privileges:	**32**	**Total acres:**	**6,725**
Suspended privileges:	**0**		
Total privileges:	**32**		

Existing grazing management objectives:

Maintain or improve ecological status of vegetation

Maintain the aesthetic and visual conditions of land and water

Prevent accelerated erosion

Maintain the natural diversity of wildlife by maintaining existing habitat

Maintain naturalness, solitude and primitive recreation

Increase production of livestock forage through resource improvements and changes in grazing systems

Additional management emphasis:

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals):

	Summer	Winter	Competitive forage demand (AUM)
Deer	**50**	**75**	**Unk**
Pronghorn	**0**	**0**	**0**
Elk	**0**	**0**	**0**

Recreational and sensitive fish habitat

Streams with known riparian communities and DEQ water quality considerations (Appendix D, Table D-2):

Identified water quality problems from DEQ 1988 NPS Assessment

BLM allotment name:	ROCK CR. FFR	Allotment number:	06114
Management category:	C	BLM acres:	1472
Number of pasture(s):	5	Private acres:	9,315
AMP implemented:	None	State acres:	0
Season of use:	04/01–09/25	Other Federal acres:	0
Active AUMs:	148	Total acres:	10,787
Suspended AUMs:	0		
Total AUMs:	148		

Existing grazing management objectives:

Improve/maintain vegetation conditions to benefit livestock and wildlife

Manage for diversity of wildlife habitat to provide for a variety of wildlife species

Additional management emphasis:

Forage production
Ecological condition
Antelope habitat
Riparian habitat (Rock Creek Reservoir)
Sage grouse
Noxious weeds
Water quality
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**DIXON FFR**	**Allotment number:**	06115
Management category:	C	**BLM acres:**	108
Number of pasture(s):	1	**Private acres:**	1,133
AMP implemented:	None	**State acres:**	0
Season of use:	11/01–11/30	**Other Federal acres:**	0
Active AUMs:	22	**Total acres:**	1,241
Suspended AUMs:	0		
Total AUMs:	22		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**NORTHRUP FFR**	**Allotment number:**	**06116**
Management category:	**C**	**BLM acres:**	**610**
Number of pasture(s):	**3**	**Private acres:**	**1,982**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**10/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**40**	**Total acres:**	**2,592**
Suspended AUMs:	**0**		
Total AUMs:	**40**		

Existing grazing management objectives:

Additional management emphasis:

Bighorn sheep

DEQ water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**KASER FFR**	**Allotment number:**	**06117**
Management category:	**C**	**BLM acres:**	**42**
Number of pasture(s):	**1**	**Private acres:**	**1,573**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–08/31**	**Other Federal acres:**	**0**
Active AUMs:	**5**	**Total acres:**	**1,615**
Suspended AUMs:	**0**		
Total AUMs:	**5**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**LUPHER FFR**	**Allotment number:**	**06118**
Management category:	**C**	**BLM acres:**	**88**
Number of pasture(s):	**1**	**Private acres:**	**143**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**05/01 - 05/31**	**Other Federal acres:**	**0**
Active AUMs:	**21**	**Total acres:**	**231**
Suspended AUMs:	**0**		
Total AUMs:	**21**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**POLLOCK FFR**	**Allotment number:**	**06119**
Management category:	**C**	**BLM acres:**	**753**
Number of pasture(s):	**2**	**Private acres:**	**2,826**
AMP implemented:	**None**	**State acres:**	**2**
Season of use:	**04/01–02/15**	**Other Federal acres:**	**0**
Active AUMs:	**19**	**Total acres:**	**3,581**
Suspended AUMs:	**0**		
Total AUMs:	**19**		

Existing grazing management objectives:

None

Additional management emphasis:

Bighorn sheep

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**MANN LAKE FFR**	**Allotment number:**	**06120**
Management category:	**C**	**BLM acres:**	**1,585**
Number of pasture(s):	**1**	**Private acres:**	**26,484**
AMP implemented:	**No**	**State acres:**	**0**
Season of use:	**07/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**22**	**Total acres:**	**28,069**
Suspended AUMs:	**0**		
Total AUMs:	**22**		

Existing grazing management objectives:

None

Additional management emphasis:

- **Elk habitat**
- **Riparian habitat**
- **Game fish habitat**

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	**Winter**	**Competitive forage demand (AUM)**
Deer	**0**	**0**	**0**
Pronghorn	**0**	**0**	**0**
Elk	**75**	**20**	**10**

BLM allotment name:	**NEUSCHWANDER FFR**	**Allotment number:**	**06121**
Management category:	**C**	**BLM acres:**	**637**
Number of pasture(s):	**1**	**Private acres:**	**1,373**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–04/30**	**Other Federal acres:**	**0**
Active AUMs:	**43**	**Total acres:**	**2,010**
Suspended AUMs:	**0**		
Total AUMs:	**43**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**STARR FFR**	**Allotment number:**	**06122**
Management category:	**C**	**BLM acres:**	**188**
Number of pasture(s):	**1**	**Private acres:**	**590**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–06/30**	**Other Federal acres:**	**0**
Active AUMs:	**9**	**Total acres:**	**778**
Suspended AUMs:	**0**		
Total AUMs:	**9**		

Existing grazing management objectives:

None

Additional management emphasis:

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**WINDMILL FFR**	**Allotment number:**	**06124**
Management category:	**C**	**BLM acres:**	**206**
Number of pasture(s):	**1**	**Private acres:**	**634**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**09/01–09/30**	**Other Federal acres:**	**0**
Active AUMs:	**15**	**Total acres:**	**840**
Suspended AUMs:	**0**		
Total AUMs:	**15**		

Existing grazing management objectives:

None

Additional management emphasis:

Riparian habitat

Water quality

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**ROARING SPRINGS FFR**	**Allotment number:**	**06125**
Management category:	**C**	**BLM acres:**	**7,571**
Number of pasture(s):	**3**	**Private acres:**	**12,997**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**03/01–04/15**	**Other Federal acres:**	**0**
Active AUMs:	**866**	**Total acres:**	**20,568**
Suspended AUMs:	**0**		
Total AUMs:	**866**		

Existing grazing management objectives:

Improve and maintain riparian habitat by increasing herbaceous and desired woody species (willows and associated species)

Manage uplands in a mosaic of native plant communities and seral stages that appear to be changing ecologically to a point of concern over future watershed integrity

Manage forage and water resources to provide quality habitat for wild horses in the South Steens HMA

Land and resource uses will be managed to provide habitat for viable populations of Special Status plant and animal species

Forage and water resources will be managed to provide sufficient qualities and quantities that will support a harvest on a sustained basis for livestock, wild horses, and wildlife

Manage land and resource uses within WSAs in a manner that will protect and enhance wilderness values within the scope of the IMP for land under wilderness review

Manage land and resource uses within the Donner und Blitzen NWSR to protect and improve resource conditions with special emphasis on the ORVs described in the NWSR management plan

Maintain or improve fisheries and aquatic habitat through changes in riparian vegetation within the allotment to enhance water temperatures, reduce peak flows, increase sustained flows, and reduce sedimentation

Manage vegetation to enhance or maintain a diverse habitat mosaic for a diversity of wildlife species

Attention will be given to seasonal and yearly habitat requirements for all wildlife species

Reintroduce natural and prescribed fire as an ecosystem function to maintain watershed integrity, hydrologic function, achieve a mosaic of forage production and cover needs for wildlife and livestock and enhance the richness of plant and animal species

Additional management emphasis:

Bighorn sheep
Water quality
Riparian habitat
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

Forage demand for ODFW big game management objectives (number of animals);

	Summer	Winter	Competitive forage demand (AUM)
Deer	200	1,100	24
Pronghorn	0	0	0
Elk	0	0	0

BLM allotment name:	**KUENY RANCH FFR**	**Allotment number:**	**06127**
Management category:	**C**	**BLM acres:**	**795**
Number of pasture(s):	**2**	**Private acres:**	**8,426**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**03/01–05/31**	**Other Federal acres:**	**12**
Active AUMs:	**49**	**Total acres:**	**9,233**
Suspended AUMs:	**0**		
Total AUMs:	**49**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**KONEK FFR**	**Allotment number:**	**06128**
Management category:	**C**	**BLM acres:**	**84**
Number of pasture(s):	**1**	**Private acres:**	**287**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**04/01–04/30**	**Other Federal acres:**	**0**
Active AUMs:	**10**	**Total acres:**	**371**
Suspended AUMs:	**0**		
Total AUMs:	**10**		

Existing grazing management objectives:

None

Additional management emphasis:

None

Additional management considerations with implementation of proposed RMP alternatives:

None

BLM allotment name:	**SCHARFF FFR**	**Allotment number:**	**06130**
Management category:	**C**	**BLM acres:**	**414**
Number of pasture(s):	**1**	**Private acres:**	**4,080**
AMP implemented:	**None**	**State acres:**	**0**
Season of use:	**06/01–10/31**	**Other Federal acres:**	**0**
Active AUMs:	**68**	**Total acres:**	**4,494**
Suspended AUMs:	**0**		
Total AUMs:	**68**		

Existing grazing management objectives:

None

Additional management emphasis:

Deer summer range
Sage grouse habitat
Water quality
Game fish habitat

Additional management considerations with implementation of proposed RMP alternatives:

None

Appendix F Desired Wildlife Habitat Conditions

The following narrative describes habitat characteristics and conditions along with mitigating measures that will meet wildlife management objectives. This will also provide more detail for the DRFC described in Chapter 3, and address habitat issues described in Chapter 2.

Wildlife Habitat Security and Human Disturbances

Human disturbances to wildlife security that jeopardize winter survival or interfere with breeding season activities should be avoided or minimized to the extent practical. This can be accomplished by prescribing specific adjustments to the timing, location, or duration of potentially disturbing activities which are highly varied and often associated with BLM land use authorizations

Winter use typically begins for most eastern Oregon species of wildlife by December and ends by early March. With the exception of some owls, breeding season activities typically begin by early March and extend through June. Local variations to these seasonal generalizations may modify wildlife protection stipulations because of elevation differences or other factors. Refer to the energy and minerals activity stipulations for standard protection measures associated with exploration and development.

Structural Projects

Power lines should be configured according to current technical references for wildlife mitigation, so that electrocution or other hazards to birds may be minimized or avoided (an example of such a technical reference is Suggested Practices for Raptor Protection on Power Lines, Raptor Research Foundation, Inc. 1981).

Fence design for livestock grazing administration should conform with BLM Manual 1737-1 which specifies specific wire spacings and types (smooth, barbed or net) depending on the wildlife species present in the project area. These standards will accommodate most wildlife movements and minimize the risk of injuries or death due to entanglement and collisions.

Bird ramps need to be installed in livestock troughs where entrapment/drowning of small animals has been observed. Surface flows of water originating from livestock troughs or nearby streamflows will normally eliminate entrapment problems and the necessity for bird ramps.

Vegetation Management

Prescribed land treatments that impact the character of upland habitats should be designed and carried out so as to minimize the negative impacts associated with changes to forage, cover, and structure. Design features, including temporal (timing) and spatial (location) considerations, will contribute toward reducing adverse impacts to habitat, such as fragmentation.

Juniper Woodlands

Juniper habitats should provide the following kinds of characteristics important to wildlife: (1) patches of thermal and hiding cover for mule deer and elk; (2) scattered mature trees suitable for nesting raptors such as ferruginous hawks; (3) maintenance of large trees (approximately 24-inch diameter measured 1-foot above ground) with nesting/hiding cavities for various species of small mammals and birds; (4) downed trees for small animal refugia and big game hiding cover; and (5) vegetation mosaics of approximately 50 percent juniper cover and 50 percent shrub or grassland.

Sagebrush Steppe

Big sagebrush shrub overstories, as described in the DFRC (Chapter 3), should exhibit habitat characteristics described in Table F-1. Departures from these conditions present opportunities to: (1) allow natural recovery to restore wildlife cover values; (2) supplement sagebrush recovery by seeding rehabilitation; and (3) reduce sagebrush cover and increase patchiness by using fire, chemical or mechanical means.

Forest Management

Manage for snags and green tree replacements for snags in forested habitats to maintain wildlife populations at the 60 to 70 percent level.

Table F-1. Characteristics of Shrub Overstories.

Shrub Overstory Characteristics	Importance of Characteristics
1) Shrub overstories present in a variety[1] of spatial arrangements and scales across the landscape level including some large contiguous blocks, islands, corridors, and mosaics.	Variety in spatial arrangements is considered one of several important indicators of wildlife habitat health, diversity, and connectivity. Healthy shrub overstories located within a variety of areas and at a variety of scales will help to avoid the adverse consequences of overstory fragmentation and meet the needs of a variety of animal species.
2) Native range—shrub overstories that occupy a minimum range of approximately 50 to 75 percent of the surface area of a project or local geographic area.	These proportions generally coincide with what the ODFW has recommended for sage grouse habitat needs (Sage Grouse in Oregon, Wildlife Research Report Number 15, April, 1993).
3) Seeded range[2]—shrub overstories that occupy a minimum range of approximately 25 to 50 percent of the surface area of a seeding.	In contrast to native range, the shrub cover minimum standard in seedings would be lower in order to conserve

Shrub Overstory Characteristics	Importance of Characteristics
	most seeding forage production capacity. Seedings are used to defer or rest native uplands and riparian habitats, thereby providing important indirect benefits to wildlife. Nevertheless, seedings need to provide some shrubby structure for wildlife use in order to comply with the intent of the rangeland health initiative.
4) Shrub overstories are present in predominantly light to moderate canopy coverages (defined as approximately 5 to 15 percent canopy coverage) which allow for the presence of a diverse grass and forb understory.	Herbaceous understories provide both forage and cover for wildlife. The presence of some high-density shrub cover areas may meet certain special wildlife habitat needs. However, the presence of high shrub cover densities over large areas is generally an indication of poor rangeland health.
5) Shrub overstories are present in predominantly mature, late structural status as described in Thomas et al. 1984.	Mature overstories are more likely to meet the forage and structural needs of wildlife. For example, mature shrubs supply more structural complexity and volume for nesting birds and are more able to supply winter forage or cover for big game.

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[1] The appropriate arrangements of shrub overstories necessary to meet the intent of rangeland health standards and wildlife habitat requirements are best determined at the activity plan or project level and in light of surrounding rangeland shrub cover conditions.

[2] Shrub cover standards for seeded range may be less than the 25 to 50 percent minimum where the seeding layout is irregular and minimizes the surface acreage of the seeding interior which is dominated by a grassland aspect.

Temporary Nonrenewable Grazing Use

Allow for the possibility of Temporary Non Renewable (TNR) livestock grazing use where the consequences of additional utilization allow BLM to meet the following kinds of general wildlife habitat goals: (1) light utilization levels (less than or equal to 40 percent utilization as defined in this document) in key areas so that cured vegetation or fall greenup, if present, are available to meet big game forage demands; (2) standing herbaceous vegetation is available to be used as cover by nesting bird species such as song birds, sage grouse, and waterfowl; and (3) spring or fall crested wheatgrass seeding forage (greenup) is available for geese.

Notes and Habitat Descriptions of Special Status Species

Common Name	Brief Notes about the Species	Habitat Issues of Concern
American white pelican	Nonbreeder in planning area. Typically arrives in early June and occupies major water bodies such as Bully Creek Reservoir, Cow Lakes, and Malheur River.	Limited nesting islands, disturbance to nesting colonies by human activity. USFWS prepared management guidelines for the species in 1984.
Ring-necked duck	Reported as a breeding species at Batch Lake according to field notes from Bob Kindschy (retired BLM biologist). Otherwise the species passes through the area during spring and fall migration.	Nesting cover in breeding areas.
Lesser scaup	Reported as a breeding species at Batch Lake according to field notes from Bob Kindschy (retired BLM biologist). Otherwise the species passes through the area during spring and fall migration.	Nesting cover in breeding areas.
Barrow's goldeneye	Reported as a breeding species at Batch Lake according to field notes from Bob Kindschy (retired BLM biologist). Otherwise the species passes through the area during spring and fall migration.	Nesting cover in breeding areas.
Bufflehead	Reported as a breeding species at Batch Lake according to field notes from Bob Kindschy (retired BLM biologist). Otherwise the species passes through the area during spring and fall migration.	May benefit from installation of nest boxes. No other specific recommended measures for conservation identified at this time.
Northern goshawk	Breeding species in some MRA juniper habitat; occasional breeder in aspen habitats of ARA on Steens Mountain. Suspected but undocumented as a breeder in Trout Creek/Oregon Canyon Mountains of JRA.	Found in a variety of dense, mature or old growth forests and aspen; many of the aspen stands on public land are not reproducing due to several factors; protection of juniper nesting habitats will influence proposed juniper "control" areas.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Ferruginous hawk	Breeder in MRA and JRA in open sagebrush country. Nests on a variety of substrates including sagebrush, rock ledges, juniper, and other isolated tree species. Breeds in ARA and uses juniper for nesting.	Limit human disturbances around nest sites, avoid large blocks of crested wheatgrass seedings which limit prey density and diversity, avoid OHV vehicle use around nest sites, maintain scattered juniper for nest sites. Sagebrush control.
Swainson's hawk	Associated primarily with wooded farm land in the Treasure Valley. Also present in willow bottoms on larger river systems near Jordan Valley.	General habitat health.
Black-shouldered kite	Considered by ODFW as "recent immigrants with no long term historical status in the state as a breeding species." Confirmation of breeding status could elevate the species to a Special Status. No Special Status identified at this time.	Typically hunts meadows, pastures or alfalfa fields with high meadow mouse populations.
Northern bald eagle	Winter resident only. Associated with major river systems and large water bodies such as Bully Creek Reservoir, Beulah Reservoir, Owyhee Reservoir, Malheur River, and Owyhee River. In ARA usually found near Malheur National Wildlife Refuge.	May require protection of deciduous and coniferous roost trees; forage on waterfowl and livestock carcasses.
Merlin	Reportedly extirpated from Oregon as a breeding species (Oregon Natural Heritage Program). Identified as a spring and fall migrant only.	None identified in planning area at the present time.
Peregrine falcon	Rare winter visitor, spring and fall migrant. See Birds of Malheur County, Contreras, 1996.	Typically hunts over large wetlands and marshes supporting shorebirds which are sought as prey.
Mountain quail	Associated with mid- and upper elevation riparian habitats with aspen and other shrubby riparian species. See "Birds of Malheur County, Contreras, February 1996.	Quality riparian habitat.
Western sage grouse	Fairly common as a breeder in preferred habitat supporting a variety of tall and low sagebrush varieties interspersed with meadow complexes. Populations are low in contrast to historical records according to ODFW.	Sagebrush cover for forage and shelter, healthy meadows for succulent forage and insect food sources, herbaceous cover for nesting.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Great egret	Associated with major river systems. Potentially a breeder in association with the Owyhee River and Snake River below the Owyhee Dam. Breeder some years at Pueblo Slough in ARA.	Healthy riparian habitat on major river systems.
Snowy egret	Birds observed over the years are thought to be visitors from breeding populations in Idaho or the Malheur National Wildlife Refuge.	Would benefit from more wetlands and improved riparian habitat capable of supporting fish and amphibians.
White-faced ibis	Present only as a breeder on private land. May use BLM land during the breeding season, but has not been documented. They are seen as migrants throughout the county in the fall.	Nests in marshes (mainly hardstem bulrush); feeds in marshes, meadows and some agricultural fields; nesting areas sensitive to drought; species is susceptible to organochloride pesticides.
Greater sandhill crane	Present only as a breeder on private land (McDermitt Creel drainage in southern JRA). Breeder at Pueblo Slough and Tule Spring in ARA. May use BLM land during the breeding season, but such use has not been documented.	Roosts, nests, and rears young in wet meadows; large area required per nesting pair; nest and young (called colts) trampling by livestock; power line collisions resulting in mortality; net wire barriers separating young from adults.
Snowy plover	Breeder in ARA at Alvord Lake, Borax Lake, and other areas. Reported as a migrant from Batch Lake by Kindschy.	Off-road vehicles may disturb nesting activity.
Upland sandpiper	Rare occurrence in upper elevation mountain meadows in MRA. Never recorded in ARA.	Uses lightly grazed meadows.
Long billed curlew	Breeds in several lower elevation rangelands on BLM land. Associated with rangelands in early succession often supporting species such as cheatgrass and annual mustards.	Conversion of rangeland to agriculture may adversely impact the species.
Black tern	Seen at Batch Lake and Bully Creek Reservoir during the summer but not confirmed as a breeder to date.	Heavy grazing on emergent vegetation.
Caspian tern	Breeds along major river systems such as Malheur River.	Requires sand islands for nesting and a healthy population of small to medium sized fishes.
Forster's tern	May nest locally at Beulah Reservoir, Bully Creek Reservoir. Fledglings seen at Antelope Reservoir (JRA) in 1995.	Nesting sites on major river systems.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Yellow-billed cuckoo	Associated with cottonwoods on Snake River in MRA and Steens Mountain and Pueblo Mountains in ARA.	Cattle grazing and stream alteration impacts on the health of cottonwoods.
Burrowing owl	Typically breeds in early succession rangeland supporting cheatgrass and other weedy annual species at lower elevations in ARA, MRA, and JRA. (Note: They have been seen occasionally in good quality rangeland also.)	Human disturbances during nesting season.
Northern pygmy owl	Probably breeds in northwestern corner of Malheur County. Recent observations have been made during the breeding season.	Needs large juniper, aspen or pines for nest cavities.
Flammulated owl	Kindschy reported them several times March–May at Batch Lake.	General habitat health.
Great gray owl	Probably present in northern Malheur County around Ironside Mountain.	Old growth lodgepole pine and ponderosa pine habitats; apparently prefer to nest near meadows; potentially impacted by logging.
Black-chinned hummingbird	Seen around Vale and Ontario at midsummer. Page Springs in ARA. Rare in juniper woodlands.	Riparian and shrub habitat health.
Broad-tailed hummingbird	Reported from Spring Mountain and Mahogany Mountain during the summer.	General habitat health.
Lewis' woodpecker	Breeds in aspen, burned ponderosa pine, and mature juniper types in MRA, uncommon in ARA.	Competition for nest sites by starlings, availability of large cottonwoods, nesting trees in ponderosa pine forests.
Black-backed woodpecker	Aspen, juniper, and forest habitats of upper Bully Creek watershed and probably around Ironside Mountain in MRA. Lodgepole pine, ponderosa pine, and mixed forests with larch, true fir, and Engleman spruce, tends to be more common in lower elevation forests.	Conversion of mature forest types to young and fast growing stands; loss of snags for nesting.
Three-toed woodpecker	Pine forest near Ironside Mountain.	Forest harvest practices; snag availability.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Pileated woodpecker	Pine forest near Ironside Mountain.	Retention of two or more canopy layers of forest overstory, retention of nest trees over 21 inches in diameter.
Williamson's sapsucker	Pine forest near Ironside Mountain.	Removal of old growth trees in ponderosa pine forests, snag retention for nesting purposes.
Willow flycatcher	Uncommon breeder, lower elevation riparian habitats supporting willow and other shrubby species.	Grazing impacts in riparian areas have severely impacted habitat in some areas.
Bank swallow	Colonial nester in selected locations, notably on highway from Adrian to Homedale.	Protect nesting colonies from mineral material sales.
Pinyon jay	No modern records but may have occupied juniper habitat in the past.	Juniper management.
Pygmy nuthatch	Uncommon to rare breeder in pine forests on northwestern Malheur County.	Pine forest management.
Gray catbird	Historic breeder in Malheur County but apparently no longer, in spite of some specific surveys conducted for the species during the 1990's. Eastern Oregon is the western edge of this species range.	Riparian habitat health, shrub structure availability.
Veery	Rare wanderer in recent times. Historic records of the species have been made in the early 1900's. Kindschy reported one at Batch Lake; some records indicate observations were made near the Malheur National Wildlife Refuge.	Riparian habitat health, shrub structure availability.
Mountain bluebird	Higher elevation rangeland of both southern and northern Malheur County in association with juniper, mahogany, and conifers. Common on Steens Mountain.	Juniper and aspen community health.
Western bluebird	Breeds locally in northwestern part of Malheur County and in the Oregon Canyon Mountains. Forest and aspen dependent species. Seen on Steens Mountain.	Juniper and aspen community health.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Loggerhead shrike	Typically observed in small numbers but widely distributed in their preferred habitat which includes tall patches of sagebrush, squawapple, and some salt desert habitats.	General habitat health in open sagebrush and salt desert shrub types.
Black-throated sparrow	Central to southern Malheur County in sage-covered slopes. Alvord Valley and Pueblo Valley.	General habitat health in open sagebrush and salt desert shrub types.
Black rosy finch	Limited numbers possibly 100 or less typically seen on east slopes of Steens Mountain.	Low population numbers, limited distribution of suitable habitat.
Grasshopper sparrow	Recently seen by advanced birders around Vale.	Data from Morrow County, Oregon, suggests protect natural grasslands on slopes.
Bobolink	Recent records from Juntura, Jordan Valley, and Adrian. Moist grassy areas with some willow, according to Contreras. Little Blitzen Meadows in ARA.	Heavy grazing use of meadows during the spring period.
Pine grosbeak	May be an irregular breeder in Ironside vicinity of Malheur County.	Pine forest management.
Northern leopard frog	Recent records from agricultural land around Vale, but not reported on BLM.	Rare due to loss of habitat (permanent ponds) and introduction of bullfrogs.
Columbia spotted frog	Federal candidate requiring permanent water; found in slow stream margins and ponds.	Not compatible with introduced bullfrogs or smallmouth bass; the frog depends on healthy riparian habitats and undeveloped springs.
Western toad	Widely distributed in Malheur County; breeds in marshes and small lakes.	Numbers decreasing in many parts of Oregon due to habitat loss and unknown causes.
Woodhouse's toad	Reported in association with lower reaches of Owyhee River; common in Vale area.	Can utilize drier habitats than western toad; although abundant to the east, Oregon is at edge of range.
Blotched tiger salamander	Breeding in reservoirs, in JRA north and south of Jordan Valley, and in MRA near Cow Lakes; appears to be moving east from Idaho.	Most abundant in fishless reservoirs; numbers increased following Vale project reservoir construction in 1960's.

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Desert collared lizard	Inhabits rock piles, boulder hillsides, and talus slopes where vegetation is sparse.	Not abundant, at northern limit of range; populations can easily be depleted by collectors.
Desert horned lizard	Occurs at lower elevations than short-horned lizard; requires sandy openings in shrub cover.	Not abundant, at northern limit of range; populations can easily be depleted by collectors. Would not thrive in homogeneous grasslands.
Sagebrush lizard	In the past, erroneously thought to be uncommon; very abundant in sagebrush flats.	Requires shrubland or woodland; would not thrive in homogeneous grasslands.
Western ground snake	In MRA, found in Owyhee Reservoir area in sandy or loose soil, or rocky slopes.	At western limit of range; infrequent observations may be due to secretive behavior.
Lahontan cutthroat trout	Threatened species that inhabits Coyote Lake and McDermitt basins of JRA.	Though fairly temperature tolerant, benefits from intact riparian cover and beaver ponds; subject to hybridization with hatchery trout.
Inland redband trout	Widely distributed in MRA, less abundant in JRA; few populations are genetically pure.	Though fairly temperature tolerant, benefits from intact riparian cover; subject to hybridization with hatchery trout.
Catlow Valley redband trout	Limited to several streams in ARA.	Riparian health, collaborative management with private landowners.
Bull trout	Threatened species that inhabits North Fork Malheur River, MRA; only migration and holding habitats occur on BLM.	Requires cold, clean water; intact riparian canopy and deep pools for refuge essential.
Tahoe sucker	Inhabits McDermitt Creek basin in JRA.	At northern limit of range in Oregon; abundant in Nevada and California.
Margined sculpin	Limited to Walla Walla and Umatilla basins (BRA).	Requires cold, clean water; locally abundant but not widespread.
Lahontan redside	Inhabits McDermitt Creek basin in JRA.	At northern limit of range in Oregon; abundant in Nevada and California.
California bighorn sheep	Present in a variety of canyonlands and scattered mountain ranges in all three RAs.	Avoidance of contact with domestic sheep.
Gray wolf	No longer resident as a breeding population in the planning area.	

Common Name	Brief Notes about the Species	Habitat Issues of Concern
Kit fox	Associated with salt desert habitat in JRA only.	General habitat health, avoid animal damage control trapping and use coyote getter in occupied habitat..
Canadian lynx	Considered to be extirpated from Oregon according to official release of information from USFWS, Region 1, May 22, 1997.	General habitat health.
California wolverine	Possibly present in extreme northwestern part of MRA and on Steens Mountain.	General habitat health.
White-tailed jackrabbit	Seen at higher elevations in grassland aspect habitats in northern MRA. Also seen in the lower southeast corners of the JRA also in grassland aspect habitats.	General habitati health.
Pygmy rabbit	Great Basin sagebrush habitats.	Brush control in Great Basin Sage habitats.
Preble's shrew	Forested and unforested riparian habitats.	General habitat health especially in riparian areas.
Fringed myotis	Potentially present in a variety of habitats.	Impacts from caving activity, very susceptible to human disturbances, forest practices, livestock grazing.
Pacific western big-eared bat	Present in some caves and juniper habitats throughout the planning area.	Cave management, juniper management
Antelope groundsquirrel	Fairly common in selected lower elevation sagebrush and salt desert rangelands.	General riparian habitat health in sailt desert environments.
Malheur pseudoscorpion	Occurs in a State and privately-owned cave; BLM administers some of the subsurface minerals.	Destruction of cave environment, mineral development.
Planarian	Limited data about the species.	General riparian habitat health.
Malheur cave amphipod	Limited data about the species.	General riparian habitat health.
Malheur pebblesnail	Limited data about the species.	General riparian habitat health.
Western ridgemussel	Limited data about the species.	General riparian habitat health.
Crooked creek springsnail	Limited data about the species.	General riparian habitat health.
Owyhee hot springsnail	Limited data about the species.	General riparian habitat health.
Malheur springsnail	Limited data about the species.	General riparian habitat health.
Hotspring physa	Limited data about the species.	General riparian habitat health.

Appendix G
Projected Recreation Use Patterns

Projected growth rate percentages for the most popular recreational activities in southeastern Oregon under low growth, moderate growth, and average growth scenarios.[1]

	Low Growth			Moderate Growth			Average Growth		
Activity	1-Year	5 Years	20 Years	1-Year	5 Years	20 Years	1-Year	5 Years	20 Years
Coldwater fishing	1.2	6	27	3.7	20	107	2.5	13	62
Water sports	1.9	10	46	5.3	29	181	3.6	19	103
Nonmotorboating	2.8	15	74	9.8	59	549	6.3	36	239
Motorboating	0.8	4	17	2.4	12	61	1.6	8	37
Sightseeing	1.9	10	46	4.3	23	132	3.1	16	84
Photography	2.8	15	74	8.8	52	440	5.8	32	209
Day hiking	3.6	34	103	12.4	79	936	8.0	47	366
Camping	1.4	7	32	4.2	23	128	2.8	15	74
OHV use	2.0	10	48	4.7	26	150	3.4	18	93
Bicycling	3.2	17	88	11.3	71	751	7.3	42	305
Horseback riding	0.6	3	13	1.8	9	43	1.2	6	27
Picnicking	1.4	7	32	3.6	19	103	2.5	13	64
Hunting	0.9	4	20	2.4	12	61	1.7	8	39
Average	1.9	11	47	5.7	33	203	3.8	21	111
Average w/o OHV[2]	1.9	11	45	5.8	34	209	3.8	21	110

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[1] These percentages are based on growth patterns according to present trends. Calculations are based on Oregon State Comprehensive Outdoor Recreation Plan.
[2] Without Off-Highway Vehicle (OHV) use.

Appendix H
Recreational Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) provides the conceptual framework for inventory, planning, and management of the recreation resource. The ROS recognizes that people differ in their needs and in the experience they desire. Also, the resource base is not uniform; it varies in its potential for providing recreation experiences. The ROS provides a way to characterize either the capability of a resource to provide an experience or the demand for an experience in terms of the activity opportunity and setting opportunity provided or demanded. Therefore, recreation opportunities can be expressed in terms of three components: the activities, the setting, and the experience. The possible combinations of these three components are arranged along a continuum, or spectrum. The ROS is divided into six classes, with each class defined in terms of its combination of activity, setting, and experience opportunities. The six classes are primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban. As conceived, the spectrum has application to all land, regardless of ownership or jurisdiction. Classes are described below and shown on Maps REC-1A, 1J, and 1M.

Primitive

This is essentially an unmodified natural environment of fairly large size. Use of motorized vehicles is prohibited. There is an extremely high probability of experiencing isolation, closeness to nature, and self-reliance on outdoor skills. Activities may include hiking, nature study, fishing, cross-country skiing, and floatboating.

Semiprimitive Nonmotorized

This is a predominantly natural or natural-appearing environment of moderate to large size. Minimum on-site controls and restrictions may be present. Use of motorized vehicles is prohibited. There is a high probability of experiencing isolation, closeness to nature, and self-reliance in outdoor skills. Activities may include camping, hunting, snowshoeing, and floatboating.

Semiprimitive Motorized

This is a predominantly natural or natural-appearing environment of moderate to large size. User interaction is low, but there is evidence of other users. Minimum on-site controls and restrictions may be present. Use of motorized vehicles is permitted. There is a moderate probability of experiencing isolation, closeness to nature, and self-reliance in outdoor skills. Activities may include boating, motor biking, specialized landcraft use, mountain climbing, driving for pleasure, camping, and picnicking.

Roaded Natural

This is a predominantly natural-appearing environment with moderate evidence of humans. Evidence usually harmonizes with the natural environment. Management provides for the use of conventional motorized vehicles. There is an equal probability to experience affiliation with other user groups and for isolation and interaction with the natural environment. Challenge and risk opportunities are not very important, although testing of outdoor skills may be. Opportunities for both motorized and nonmotorized recreation are available. Activities may include bus touring, water skiing, walking, canoeing, sledding, and driving for pleasure.

Rural

This is a substantially modified environment. Resource modifications and utilization practices are to enhance specific recreation activities. Facilities are designed for use by a large number of people. Motorized use and parking opportunities are available. The probability of user interaction is moderate to high, as is the convenience of sites and opportunities. These factors are generally more important than the physical setting. Wildland challenges and testing of outdoor skills are generally unimportant. Activities may include interpretive services, swimming, bicycling, recreation cabin use, and skiing.

Urban

This is a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modernization and urbanization practices are to enhance specific recreation opportunities. Vegetative cover is often exotic and manicured. Large numbers of users can be expected on-site and in nearby areas. Facilities for highly intensified motor-vehicle use and parking are available. The probability of user interaction is high, as is the convenience of sites and opportunities. Experiencing natural environments and uses of outdoor skills are relatively unimportant. Opportunities for competitive and spectator sports and for passive uses are common. Activities may include resort lodging, ice skating, team sports participation, tour boat use, and picnicking. See Table 2-23 for the amount of public land in each ROS class in each Resource Area.

Appendix I
Off-Highway Vehicle Use

Off-Highway Vehicle (OHV) Terms And Definitions

The following terms are defined as stated in 43 CFR 8340.0-5.

Off-Road Vehicle (OHV): any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies. OHV use is subject to operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342.

Open area designation: any area where all types of vehicle use are permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342.

Limited area designation: an area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following categories: number of vehicles, types of vehicles, time or season of vehicle use, permitted or licensed use only, use on existing roads and trails, use on designated roads and trails, and other restrictions.

Closed area designation: an area where OHV use is prohibited. Use of OHV's in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

Federal Register Notices Relating to Existing OHV Designations

The following is a list of all the current *Federal Register* (FR) notices relating to OHV designations within the planning area.

FR Vol. 45, No. 183, September 18, 1980 Closure and Limitation of Use of Motorized Vehicles on Public Lands, Burns District Office Oregon.

FR Vol. 52, No.34, February 20, 1987, Off-Highway Vehicle Designation, Burns District.

FR Vol. 52, No.51, March 17, 1987, Off-Highway Vehicle Designation Correction (correcting FR notice of February 20, 1987), Burns District.

FR Vol. 57, No.122, June 24, 1992, Motor Vehicle and Camping Restrictions on Certain Public Lands Adjacent to Mann Lake, Burns District.

FR Vol. 45, No. 198, October 9, 1980, Vale District, Oregon Designation of Public Lands For Off-Road Vehicle Use.

FR Vol. 49, No. 192, October 1, 1984, Motorized Vehicles on Public Lands, Restrictions of Use, Vale District.

FR Vol.54, No.168, August 31, 1989, Off-Road Vehicle Designations, Vale District.

FR Vol. 58, No. 178, September 16, 1993, Limitations of Off-highway Vehicle Use to existing Roads and Trails, Vale District.

Present Winter OHV Use Stipulations on Steens Mountain

The following are decisions of the Andrews Management Framework Plan Amendment for Recreation Access Surrounding the Steens Mountain Loop Road, June 1993.

Snowmachines are allowed on public land, outside of Wilderness Study Areas (WSAs), on both sides of the Loop Road. The BLM ensures access through the locked gate at Page Springs. The Loop Road is closed when wheeled vehicle use would cause damage to the roadbed.

A request for a winter sports use permit is approved based on the following guidelines:

- Adequate snow accumulation to ensure no damage would occur to soil and vegetation. A guide based on past experience is an average of 18 inches at 5,600 feet elevation.
- For safety reasons such as the extreme weather conditions which can occur on the mountain, quickly and without warning, authorization of winter sports is limited to groups.
- Groups desiring to cross-country ski, snowshoe, or use snowmobiles are required to have approval of the Burns District Office, requested in writing five working days prior to each trip. Each request should indicate the number of skiers or snowmobiles in the group, include an itinerary indicating dates of use, routes to be taken, and the estimated time of return from the mountain. A permit is issued with pertinent stipulations or reasons given why a permit was rescheduled for another date or reasons given why a permit was denied.
- Limit the amount of use to prevent undue stress on wildlife during critical winter months. A guide is to allow 30 wheeled vehicles through the deer winter range per month during December, January, and February and 60 vehicles per month during March, April, and May.
- All access to winter sports areas along the north segment of the Loop Road is excluded during severe winters when such use would greatly stress deer on the winter range.
- If snow is too deep for wheeled vehicles to get above the critical deer winter range, access is not to be allowed unless snow is cleared from the road.
- The use of snowmobiles is excluded from WSAs.
- People involved in winter sports activities are advised that use of private land should be made only after obtaining approval of the landowner.

These guidelines may be amended if analysis of monitoring data, use levels, and effects to resources indicate the need in order to continue to meet resource objectives and user demands.

Each group is encouraged to carry survival gear for use in case of an emergency. Trail markers are located along roads to mark WSA boundaries. When permits are issued, the BLM would undertake sufficient monitoring with resource personnel and law enforcement rangers to ensure compliance with permits and for public safety. No winter sports would be allowed until the boundary markers are in place and the BLM has the capability to patrol the area. Winter use guidelines may be revised if the results of monitoring show that management goals are not being achieved. Nonmotorized winter sports use along the south segment of the Loop Road will not change.

Appendix J
Visual Resource Management Class Objectives

The Federal Land Policy and Management Act (FLPMA) of 1976 requires the BLM to consider the effects of management actions on the visual quality of the landscape. To protect visual resources, all public land is inventoried to determine its Visual Resource Management (VRM) classification. The VRM objectives for each of four possible classifications are described below.

Class I—The objective of this classification is to preserve the existing character of the landscape. This class provides for natural ecological changes, and it allows limited management activity. The level of change should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made to preserve a natural landscape. This includes areas such as wilderness, the wild sections of National Wild and Scenic Rivers, and other Congressionally and administratively designated areas.

Class II—The objective of this classification is to retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities may be seen but should not attract the attention of a casual observer. Any changes must conform to the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. This class represents the minimum level of VRM for Wilderness Study Areas (WSAs).

Class III—The objective of Class III is to partially retain the existing character of the landscape. Moderate levels of change are acceptable. Management activities may attract attention but should not dominate the view of a casual observer. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.

Class IV—The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention. However, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

Appendix K
Employment Statistics

	1970	1980	1990	1991	1992	1993	1994	1995	1996
Oregon									
Civilian labor force	864,500	1,295,000	1,491,000	1,508,000	154,200	1,596,000	1,640,000	1,656,200	1,721,100
Unemployment	61,700	107,000	82,000	90,000	116,000	116,000	89,000	80,300	101,700
Total wage and salary employment	709,200	1,044,600	1,251,900	1,230,800	1,274,200	1,308,400	1,362,900	1,418,400	1,474,700
Total manufacturing	172,300	215,100	220,300	211,750	209,000	211,700	221,300	229,300	235,300
Lumber and wood products (ncl paper)	76,200	79,900	73,200	65,800	63,800	62,700	63,300	61,300	59,500
Other manufacturing	96,100	135,200	147,100	145,900	145,200	149,000	158,000	168,000	175,800
Total nonmanufacturing	536,900	829,500	1,031,600	1,039,000	1,065,200	1,096,700	1,141,600	1,189,100	1,239,400
Construction and mining	30,800	48,800	54,000	53,000	52,000	55,700	62,900	70,400	80,200
Transportation, communication, and utilities	48,700	60,500	64,500	65,200	65,700	66,800	68,900	71,300	72,800
Trade	162,000	255,600	313,100	314,300	318,700	328,900	344,100	357,000	365,000
Finance, insurance, and real estate	36,000	70,000	80,300	83,200	86,000	84,600	87,800	87,300	90,600
Services and miscellaneous	112,700	191,400	296,200	296,900	311,800	328,300	343,200	362,900	384,700
Government	146,700	203,200	223,500	226,400	231,000	232,600	234,700	240,200	246,100
Harney County									
Civilian labor force	3,210	4,120	4,100	4,000	3,650	3,800	3,770	3,550	3,690
Unemployment	190	900	370	310	360	440	380	400	400
Total wage and salary employment	2,150	2,280	2,430	2,440	2,410	2,460	2,440	2,310	2,410
Total manufacturing	700	350	570	540	480	480	470	310	330
Lumber and wood products	700	340	540	520	460	460	450	290	230
Other manufacturing	0	10	30	20	20	20	20	20	100
Total nonmanufacturing	1,450	1,930	1,860	1,900	1,930	1,980	1,980	2,000	2,080
Construction and mining	50	160	80	60	50	70	70	80	80
Transportation, communication, and utilities	100	90	90	90	90	90	80	90	90
Trade	390	510	490	470	470	470	510	510	510
Finance, insurance, and real estate	60	70	70	60	50	50	50	60	60
Services and miscellaneous	230	250	300	320	330	350	330	340	370
Government	620	640	830	900	950	940	930	930	970
Malheur County									
Civilian labor force	N/A	11,880	13,990	13,730	14,460	14,870	14,570	14,150	14,760
Unemployment	N/A	970	720	940	1,220	1,320	1,010	940	1,260
Total wage and salary employment	N/A	9,230	9,650	10,130	10,160	10,360	10,810	11,340	11,520
Total Manufacturing	N/A	1,610	1,540	1,630	1,490	1,300	1,280	1,420	1,370
Lumber and wood products	N/A	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other manufacturing	N/A	1,560	1,540	1,630	1,490	1,300	1,280	1,420	1,370
Total nonmanufacturing	N/A	7,620	8,110	8,510	8,670	9,060	9,560	9,920	10,130
Construction and mining	N/A	360	280	300	270	370	450	460	410
Transportation, communication, and utilities	N/A	500	490	550	500	500	600	630	650
Trade	N/A	2,980	3,090	3,160	3,160	3,290	3,410	3,570	3,630
Finance, insurance, and real estate	N/A	300	340	340	330	350	370	370	380
Services and miscellaneous	N/A	1,430	1,720	1,830	1,890	1,970	2,140	2,220	2,310
Government	N/A	1,980	2,220	2,330	2,440	2,520	2,600	2,680	2,750

Source: State of Oregon Employment Department. Oregon Resident Labor Force, Unemployment and Employment Tables, Various Years.

Appendix L
Land Tenure Adjustment Criteria and Legal Requirements

Map L-2A, 2J, and 2M depict three zones that identify the public land for potential land tenure adjustments (e.g., acquisition or disposal), consistent with existing regulations and BLM policy. Section 102.(a)(1) of the Federal Land Policy and Management Act (FLPMA) provides that ". . . the public lands be retained in Federal ownership unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest . . ."

Management guidelines specific to each zone are described below.

Zone 1: Retention/Acquisition

Zone 1 land has been identified for retention in public ownership. These are also areas where emphasis will be placed on acquisition of land containing high public resource values through such methods as exchange, purchase, donation or public agency jurisdictional transfers. Zone 1 land may contain significant visual, wildlife, watershed, vegetative, cultural and other public resource values and are generally well blocked. Land within Zone 1 may be exchanged for other Zone 1 land with higher resource values.

The following management criteria would be applied to land tenure adjustments involving Zone I land within the planning area:

- Land within Special Management Areas (SMAs) such as National Wild and Scenic River (NWSR) boundaries, wilderness areas, Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), Outstanding Natural Areas (ONAs), and Research Natural Areas (RNAs) would be retained in public ownership. Private land within these designated areas represents potential acquisition priorities.
- Land Sale exception in Zone 1 - Small parcels of public land adjacent to private land holdings in a Retention-Zone 1 area which are difficult or uneconomical to manage may be considered for exchange or sale under Disposal-Zone 3 criteria. Also, small parcels of land (80 acres or less) identified by State, local, or other Federal entities for public purpose needs may be considered for exchange or sale under disposal Zone 3 criteria.

Zone 2: Land Exchange

Zone 2 land has been identified for limited retention and consolidation of ownership. Public land within this zone may be exchanged for Zone 1 or 2 land with higher resource values. Zone 2 land generally has fragmented landownership patterns or relatively lower resource values than are present in Zone 1. These are areas where emphasis will be placed on acquisition of land containing high public resource values through such methods as exchange, purchase, donation or public agency jurisdictional transfers and disposal by exchange to create consolidated public land areas. Zone 2 land will not be sold except as stated under management criteria listed below.

The following management criteria would be applied to land tenure adjustments involving Zone 2 land within the planning area:

- Land within SMAs such as NWSR boundaries, wilderness areas, WSAs, ACECs, ONAs, and RNAs would be retained in public ownership. Private land within these designated areas represents potential acquisition priorities.

- Land Sale exception in Zone 2 - Small parcels of public land adjacent to private land holdings in a Land Exchange-Zone 2 area which are difficult or uneconomical to manage may be considered for sale under Disposal-Zone 3 criteria.

- Public purpose land sale exception in Zone 2 - parcels of public land may be sold to meet public and community needs.

Zone 3: Disposal

Zone 3 land generally has low resource values. This land is potentially suitable for disposal by such methods as public agency jurisdictional transfers, or State indemnity selection (State in lieu selection), or Recreation and Public Purpose (R&PP) Act lease or patent, exchange or sale unless significant recreation, wildlife, watershed, Special Status species, cultural resources or other significant resource values are identified as a result of site-specific analysis. This zone may include land needed for community expansion, small parcels located adjacent to private inholdings within and/or adjacent to large blocks of public land being retained by BLM, parcels on which unauthorized use exists, and land included within survey hiatus. Zone 3 land may be exchanged for land with higher resource values in Zones 1 and 2. A legal description of Zone 3 is presented in Table L-4.

The following management criteria would be applied to land tenure adjustments involving Zone 3 land within the planning area:

- If acquisition interest is shown, in writing, for Zone 3 land by local, county or State governments, BLM would consider their needs to accommodate community expansion or other public purposes.

- If Zone 3 parcels are found unsuitable for disposal they will be retained and included under the Zone 1 or 2 designation.

General Management Criteria

Land Exchanges

The following general management criteria would be applied when considering land exchanges within the planning area. To be considered to be in the public interest, exchanges must:

- Facilitate access to public land and resources, or

- Maintain or enhance important public values and uses, or

- Maintain or enhance local social and economic conditions; and

- Facilitate implementation of other goals and objectives of the RMP.

It is important to minimize the impact to the local tax base by emphasizing exchanges rather than fee purchases.

Public Parcels Within Privately Owned Land

Scattered parcels of public land located within consolidated private areas could be exchanged or sold. Land exchanges would be the preferred method of disposal because this would maintain the current public and private land bases. Parcels of public land may be exchanged for land with higher resource values within BLM retention areas.

Disposal of Land by Sale

Public land or tracts to be sold must meet at least one of the following disposal criteria stated in Section 203 of FLPMA:

- "Such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another federal department or agency; or
- Such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
- Disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership."

Generally, exchanges are the preferred method of disposal but sales will be utilized when:

- It is required by National policy; or
- It is required to achieve disposal objectives on a timely basis, and where disposal through exchange would cause unacceptable delays; or
- Disposal through exchange is not feasible.

The preferred method of selling public land will be by competitive bidding at public auction to qualifying purchasers. However, modified competitive bidding procedures may be used when there is no legal public access to a tract, when necessary to avoid jeopardizing an existing use on adjacent land, or to avoid dislocation of existing public land users.

Public land may be sold by direct sale at fair market value when:

- Such land is needed by State or local governments; or
- Direct sale is needed to protect equities arising from authorized use; or
- Direct sale is needed to protect equities resulting from inadvertent unauthorized use that was caused by survey errors or title defects; or
- There is only one adjacent landowner.

Methods of Disposal

Methods of disposal for implementing land disposal actions include the following: (a) BLM and other Federal jurisdictional transfers; (b) transfers to State and local agencies (e.g., R&PP patents, in-lieu selections, airport patents); (c) State exchanges; (d) private exchanges; (e) sales; (f) Indian allotments; and (g) desert land entries.

Subsurface Mineral Interests

- Section 209(b) of FLPMA allows for the disposal of public mineral estate to the surface owners.
- Section 205 allows for the acquisition of land on interests consistent with the mission of the department.

Appropriate Environmental Review

- Site-specific environmental analysis and documentation in conformance with the National Environmental Policy Act, including completion of categorical exclusion check lists and plan conformance determinations where appropriate, will be accomplished for each proposed land program action. Interdisciplinary impact analysis will be tiered within the framework of this and other applicable environmental documents.

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Table L-1. Utility and transportation corridors (existing and proposed).[1]

Corridor	Currently occupied	Corridor type			Designated corridor width (ft)[2]				Corridors with possible development limitations[3]				Miles of corridor on public land[4]	Resource area
	(Yes - no)	Single use UT	Single use TR	Multiple use UT & TR	500	1,000	1,500	6,000	WSA	ACEC	WSR	VRM I & II		
Existing														
Star Valley	Y		X		X				X		X		50	JRA
US Hwy 95	Y			X		X			X				79	JRA
Fields/McDermitt-Harney Elec Substn	Y	X				X			X	X			50	JRA/ARA
H Elect Substn/1.5 MS Fie/D Jct	Y	X				X				X			2	ARA
Whitehorse/Fields/Denio Jct US Hwy 95	Y			X	X					X		X	29	JRA/ARA
US Hwy 95/Soldier Creek	Y			X	X								11	JRA
Soldier Creek/Three Forks	Y		X		X				X	X	X	X	22	JRA
Whitehorse Butte/Three Forks	Y		X		X							X	10	JRA
State Hwy 78	Y			X		X			X			X	25	JRA/ARA
Cow Lakes/US Hwy 95	Y			X	X								11	JRA
Folly Farms (Or Hwy 78)/Crowley	Y			X	X								0	JRA/MRA
Fields/Folly Farm-US Hwy 78 Jct	Y			X	X				X	X		X	40	ARA
Fields/Denio	Y			X		X			X	X		X	16	ARA
State Hwy 205	Y			X		X			X			X	9	ARA
Frenchglen/Fields/Folly Farm Jct	Y			X	X				X			X	14	ARA
Fields Substn/Frenchglen Har El	Y	X				X			X			X	23	ARA
Hart Mt/State Hwy 205 Catlow V	Y			X		X						X	16	ARA
BPA/Arctic Gas Pipeline Tran Rt	N	X					X[5]		(Deleted from alternatives A, C, D, E)				123	JRA/MRA
Proposed PP&L 500 kV Trans L	N	X					X		(Deleted from alternatives A, C, D, E)				95	JRA/ARA
PP&L 500 kV Intertie North Route	Y	X					X		X	X	X	X	51	MRA
US Hwy 20 (Juntura/Harper)	Y			X		X			X			X	9	MRA
Venator/Riverside	Y			X	X							X	5	MRA
Interstate Hwy 84 corridor area	Y			X				X					3	MRA
MFP alter 500 kV route	N	X					X		(Deleted from alternatives A, C, D, E)				22	MRA
Proposed/additions														
McDermitt Creek Road	Y			X	X								38	JRA
McDermitt Creek Harney El	Y			X		X						X	10	JRA
OR/ID State Line	Y			X	X							X	7	JRA
Cow Creek	Y			X	X								8	JRA
Harper (US Hwy 20)/Crowley	Y			X	X				X				39	MRA
Proposed 500 kV Route-Dog Leg	N	X					X						17	MRA
US Hwy 26	Y			X		X							0	MRA
Juntura (US Hwy 20)/Riverside	Y			X	X							X	13	MRA
US Hwy 20 Juntura/Harney Co L	Y			X		X						X	4	MRA
US Hwy 20 Harper/Vale	Y			X		X							3	MRA

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[1] Definitions: Single use utility (UT) and transportation (TR) corridors will allow a single type of linear right-of-way to be located within a single corridor route. The type of linear rights-of-way that would be permitted would be the same as listed in the multiuse utility and transportation corridor definition listed below, except it would be limited to a single use instead of a combination of several different types of rights-of-way. More than one right-of-way of the same type would be permitted. These corridors are generally for cross-country power transmission/intertie lines, pipelines or county, State, or Federal roads and are already in operation or exist on the ground. However, where other right-of-way needs are identified and should be located in the single use utility corridor, the single use utility corridor could be changed to a multiuse utility corridor at management's discretion in the future without further plan amendment. Multiuse utility and transportation (UT & TR) corridors will allow many different types of linear rights-of-way to be located within a single corridor route. The types of linear rights-of-way that will be permitted to coexist in the corridor include, but are not limited to, railroads, highways or roads, power transmission and/or distribution lines, pipelines (natural gas, crude oil, product, coal slurry, or water) and telephone (buried and/or overhead), etc. These corridors are generally already in operation. Limitations may be imposed if the right-of-way use would cause extensive damage to cultural and/or historical resources, or cause a high impact on visual or environmental aspects of the corridor route. Each right-of-way will be evaluated on its own merits on a case-by-case basis.

[2] Source: the 1993 Western Regional Corridor Study was used for guidance to determine the designated corridor widths.

[3] Where the corridor forms the boundary of an SMA, the corridor will be outside the SMA. Refer to appropriate sections of this plan for possible development limitations.

[4] Mileages shown are entire routes within planning area only (numbers are rounded). Mileages outside planning area are subject to review by adjacent BLM districts. Designated corridor widths are not reflected in miles of corridor.

[5] The MFP proposed BPA/Arctic Gas pipeline transportation route corridor width is 0.5-mile (2,640 feet).

Table L-2. Existing and potential communication sites on public land in the planning area.

	Current Use[1]							
	Single	Multi-	Site Status		Develop Site Plans[1]			
User Communication Site	user Site	Site	Existing	Potential	Existing	Planned	Resource Unplanned	Area
Blue Mountain		X	X		X			JRA
Pharmacy Hill		X[2]	X			X		JRA
High Peak	X		X			X		JRA
Rome	X		X				X	JRA
FAA Vortac Withdrawal & NOAA Site[3]		X	X				X-FAA site juris.	JRA
Turkey Pasture	X		X				X	JRA
Red Mountain				X			X	JRA
Basque Station				X			X	JRA
Rattlesnake Weather Monitoring Station	X		X				X	JRA
Grassy Butte Weather Monitoring Station	X		X				X	JRA
Rhinehart Butte		X	X		X			MRA
Dry Peak (Cottonwood Mountain)		X[2]	X			X		MRA
Monument Peak		X[2]	X			X		MRA
Owyhee Ridge		X	X			X		MRA
Sheaville (building not occupied)			X				X	MRA
Black Butte		X Pvt[2]		X		X		MRA
Castle Rock				X			X	MRA
Kelsey Butte Weather Monitoring Station	X		X				X	MRA
Owyhee Ridge Weather Monitoring Station	X		X				X	MRA
Red Butte Weather Monitoring Station	X		X				X	MRA
Vines Hill Weather Monitoring Station	X		X				X	MRA
Tub Mountain				X			X	MRA
Ironside Mountain				X			X	MRA
Juniper Mountain				X			X	MRA
Rock Creek Butte				X			X	MRA
Brown Butte				X			X	MRA
Buckskin Mountain	X		X			X		ARA
Basque Hills Weather Monitoring Station	X		X				X	ARA
Borax Lake Weather Monitoring Station	X		X				X	ARA
Moon Hill Weather Monitoring Station	X		X				X	ARA
Frenchglen Weather Monitoring Station	X		X				X	ARA

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[1] If user demand at a single user site moves the site to a multiuser site category or a potential site becomes a single or multi-user site through user demand, BLM reserves the right to develop a site plan for a particular site as user demand increases over the life span of the land use plan.

[2] A site where BLM and private property lines divide a portion of the site. Development may be occurring on either BLM or private land or both on the same site.

[3] NOAA Site Communication Site right-of-way is issued, granted, and administered by BLM with FAA concurrence.

Table L-3. Existing withdrawals on public land within the planning area.

Resource Area	Withdrawal Agency[1]	Type of Withdrawal	Withdrawal Order and Date	Mineral Segregation	Total Acres[2]
Malheur	BLM	Public Water Res. 70	E.O. 3-8-1920	Non-Metal	40
Malheur	BLM	Public Water Res. 61	E.O. 2-25-1919	Non-Metal	161
Malheur	BLM	Public Water Res. 81	E.O. 11-26-1921	Non-Metal	237
Malheur	BLM	Public Water Res. 83	E.O. 4-15-1922	Non-Metal	80
Malheur	BLM	Public Water Res. 84	E.O. 6-7-1922	Non-Metal	40
Malheur	BLM	Public Water Res. 87	E.O. 11-9-1923	Non-Metal	160
Malheur	BLM	Public Water Res. 91	E.O. 6-13-1925	Non-Metal	560
Malheur	BLM	Public Water Res. 94	E.O. 9-25-1925	Non-Metal	160
Malheur	BLM	Public Water Res. 107	S.O. Intpr. 196 4-16-1912	Non-Metal	40
Malheur	BLM	Public Water Res. 107	S.O. Intpr. 160 4.-17-1926	Non-Metal	120
Malheur	BLM	Public Water Res. 107	S.O. Intpr. 221 4-17-1926	Non-Metal	160
Malheur	BLM	Public Water Res. 118	E.O. 2-31-1929	Non-Metal	280
Malheur	BLM	Resvr. Site Res. 2 Beulah/Bully Ck[3]	E.O. 3-31-1911	Non-Metal	1,081
Malheur	BLM/BOR[4]	Resvr. Site Res. 2 Warm Springs[5]	E.O. 3-31-1911	Non-Metal	930
Malheur	BOR	Owyhee Project Malheur R.[5]	S.O. 9-2-1914	Mining	2
Malheur	BOR	Owyhee Project Malheur R.[5]	S.O. 11-4-1914	Mining	22
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 3-17-1916	Mining	200
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 11-5-1919	Mining	367
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 2-5-1923	Mining	6,764
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 3-28-1925	Mining	24,332
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 4-16-1936	Mining	160
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 2-18-1937	Mining	80
Malheur	BOR	Owyhee Project Owyhee R.[5]	S.O. 4-30-1945	Mining	40
Malheur	BOR	Vale Project-Vale[5]	S.O. 12-14-1926	Mining	2,918
Malheur	BOR	Vale Project-Vale[5]	S.O. 3-18-1929	Mining	511
Malheur	BOR	Vale Project-Vale[5]	S.O. 2-9-1932	Mining	80
Malheur	BOR	Vale Project-Vale[5]	S.O. 5-2-1933	Mining	160
Malheur	BOR	Vale Project-Vale[5]	S.O. 1-4-1943	Mining	110
Malheur	BOR	Vale Project-Vale[5]	PLO 2061 4-23-1962	Mining	240
Malheur	BOR	Resvr. Site 2 Payette/Boise[5]	S.O. 5-17-1905	Mining	0.02
Malheur	BLM/FERC[6]	Power Site Res. 3	E.O. 7-2-1910		4,863
Malheur	BLM/FERC[6]	Power Site Res. 3	E.O. 2-15-1916[8]		2,600
Malheur	BLM/FERC[6]	Power Site Res. 3	E.O. 7-27-1918[8]		2,633
Malheur	BLM/FERC[6]	Power Site Res. 3	E.O. 8-29-1919[8]		10,706
Malheur	BLM/FERC[6]	Power Site Res. 175	E.O. 2-28-1911		464
Malheur	BLM/FERC[6]	Power Site Res. 260	E.O. 4-16-1912		987
Malheur	FERC	Power Project 1971	FPC O 11-30-1951	Mining	987
Malheur	BLM	Power Site Classification	USGS O 11-30-1951		461
Malheur	USFWS	Deer Flat National Wildlife Refuge	PLO 3168 7-31-1963	Mining	4
Malheur	USFWS	Deer Flat National Wildlife Refuge	PLO 4366 2-12-1968	Mining	1
Malheur		Deer Flat National Wildlife Refuge	Unsurveyed Islands	Mining	60
Jordan	BLM	Administrative Site and Airport Surface Zone Protection McDermitt	PLO 5980 9-2-1981 (OR-23735)	Surface entry and Mining	514
Jordan	BLM	Administrative Site and Airport Surface Zone Protection Burns Jct.	PLO 6624 9-25-1986 (OR-36355)	Surface entry and Mining	1,063
Jordan	BLM	Public Water Res. 61	E.O. 2-25-1919	Non-Metal	240
Jordan	BLM	Public Water Res. 64	S.O. Intpr. 7 6-5-1919	Non-Metal	200
Jordan	BLM	Public Water Res. 86	E.O. 2-18-1923	Non-Metal	800
Jordan	BLM	Public Water Res. 87	E.O. 11-9-1923	Non-Metal	877
Jordan	BLM	Public Water Res. 91	E.O. 6-13-1925	Non-Metal	366
Jordan	BLM	Public Water Res. 107	S.O. Intpr. 140 4-17-1926	Non-Metal	1,358
Jordan	BLM	Public Water Res. 107	S.O. Intpr. 177 4-17-1926	Non-Metal	720
Jordan	BLM	Public Water Res. 107	S.O. Intpr. 199 4-17-1926	Non-Metal	80
Jordan	BLM	Public Water Res. 148	E.O. 6019 2-7-1933	Non-Metal	480
Jordan	BLM	Public Water Res. 150	E.O. 2-20-1933	Non-Metal	40
Jordan	BLM	Public Water Res. 64	E.O. 6-5-1919	Non-Metal	74
Jordan	BLM	Main, West Little, North Owyhee NWSRs	PL 98-494-1984 and OR Omnibus WSR Act of 1988	Mining	59,520[7]

Resource Area	Withdrawal Agency[1]	Type of Withdrawal	Withdrawal Order and Date	Mineral Segregation	Total Acres[2]
Jordan	BLM/FERC[5]	Power Site Res. 3	E.O. 7-2-1910		13,519
Jordan	BLM/FERC[5]	Power Site Res. 3	E.O. 7-27-1918[6]		14,202
Jordan	BLM/FERC[5]	Power Site Res. 399	S.O. Intrp. 28 7-27-1918		1,275
Jordan	BLM/FERC[5]	Power Site Res. 399	E.O. 7-27-1918		961
Jordan	BIA	Indian Grazing Reserve	Act of Congress 1-17-1936		17,029
Jordan	BIA	Indian Grazing Reserve Proposed Wdl.	OR-2773 11-23-1967		400
Jordan	BIA	Indian Grazing Reserve Temp. Wdl. in Aid of Legislation	S.O. 7-7-1933		400
Jordan	FAA	VORTAC	PLO 3451 ANS 9-23-1964	Mining	52
Jordan	FAA	VORTAC	PLO 2970 ANS 3-18-63	Mining	15
Jordan	FAA	VORTAC	ANS S.O. 8-14-1948	Mining	60
Andrews	BLM	Public Water Res. 61	E.O. 2-25-1919	Non-Metal	1,682
Andrews	BLM	Public Water Res. 84	E.O. 6-7-1922	Non-Metal	440
Andrews	BLM	Public Water Res. 48	E.O. 2-27-1917	Non-Metal	
Andrews	BLM	Public Water Res. 63	E.O. 4-30-1919	Non-Metal	797
Andrews	BLM	Public Water Res. 78	E.O. 6-14-1921	Non-Metal	96
Andrews	BLM	Public Water Res. 85	E.O. 11-27-1922	Non-Metal	480
Andrews	BLM	Public Water Res. 77	E.O. 5-25-1921	Non-Metal	80
Andrews	BLM	Public Water Res. 15	E.O. 1-24-1922	Non-Metal	312
Andrews	BLM	Public Water Res. 87	E.O. 11-9-1923	Non-Metal	180
Andrews	BLM	Public Water Res. 107	S.O. Intpr. 177 4-17-1926	Non-Metal	
Andrews	BLM	Public Water Res. 81	S.O. Intpr. 107 4-17-1926	Non-Metal	
Andrews	BLM	Public Water Res. 107	S.O. Intpr. 151 4-17-1926	Non-Metal	4,721
Andrews	BLM	Public Water Res. 91	E.O. 6-13-1925	Non-Metal	160
Andrews	BLM	Public Water Res. 88	E.O. 11-21-1923	Non-Metal	
Andrews	BLM/FERC[5]	Power Site Res. 220	E.O. 4-16-1914		2,437
Andrews	BLM/FERC[5]	Power Site Res. 344	P.L.O. 7106 7-19-1935		60
Andrews	USFWS	Malheur National Wildlife Refuge	P.L.O. 7106 7-19-1935	Mining	17,669
Andrews	USFWS	Refuge Name Change	P.L.O. 2416 7-25-1940	Mining	

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[1] Abbreviations: BLM = Bureau of Land Management; FERC = Federal Energy Regulatory Commission; BIA = Bureau of Indian Affairs; FAA = Federal Aviation Administration; BOR = Bureau of Reclamation; USGS = U.S. Geological Survey; USFWS = U.S. Fish and Wildlife Service.

[2] Acreage figures for Malheur and Jordan Resource Areas are from 1981 MFP documents and may not reflect current acreage figures. Acreage figures shown for the Andrews Resource Area do not reflect ongoing changes in withdrawal sizes. The size of some withdrawals in the Andrews Resource Area is not currently available.

[3] Where BLM withdrawals (Reservoir Site Res. 2) overlap BOR withdrawals, BOR has jurisdiction, but it's still a BLM withdrawal.

[4] BOR has undivided half interest in Reservoir R/W TD-025873.

[5] These withdrawals are managed in accordance to the July 20, 1966 National MOU between the BLM and FERC.

[6] These withdrawals are actually the modification dates (survey interpretations), and original withdrawals were dated 7-2-1910.

[7] Acreage determined from Main, West Little, North Owyhee NWSR Management Plan/EA (Sept. 1993: Overview, p. 2)

Table L-4. Land potentially suitable for disposal–Zone 3.

Tract	Legal Description	Acres
Malheur Resource Area		
	T. 13 S., R. 38 E.,	
SM0242	sec. 34, NE¼SE¼	40.00
SM0242	sec. 35, SW¼NW¼	40.00
SM0242	sec. 35, NW¼SW¼	40.00
	T. 13 S., R. 39 E.,	
SM0243	sec. 31, NW¼NE¼	40.00
SM0244	sec. 33, SE¼NW¼	40.00
SM0244	sec. 33, E½SW¼	80.00
SM0244	sec. 33, S½SE¼	80.00
	T. 13 S., R. 40 E.,	
SM0250	sec. 14, NE¼NW¼	40.00
SM0251	sec. 14, SW¼SW¼	40.00
SM0252	sec. 22, NW¼NE¼	40.00
SM0253	sec. 23, NW¼NE¼	40.00
SM0253	sec. 23, E½W½	160.00
SM0261	sec. 24, SE¼NE¼	40.00
SM0254	sec. 25, lot 4	29.80
SM0253	sec. 26, E½NW¼	80.00
	T. 13 S., R. 41 E.,	
SM0255	sec. 17, NE¼	160.00
SM0255	sec. 17, NW¼SE¼	40.00
SM0256	sec. 18, lot 2	39.87
SM0258	sec. 19, E½SE¼	80.00
SM0257	sec. 19, lot 2	39.80
SM0257	sec. 19, E½NW¼	80.00
SM0259	sec. 20, SW¼NE¼	40.00
SM0258	sec. 20, W½SW¼	80.00
SM0260	sec. 28, NW¼SW¼	40.00
SM0258	sec. 29, N½NW¼ except MS-759 patent	55.00
SM0258	sec. 29, SW¼NW¼ except MS-759 patent	6.00
SM0258	sec. 29, NW¼SW¼ except MS-759 patent	25.00
SM0258	sec. 29, SW¼SW¼ except MS-32 patent	37.00
SM0258	sec. 30, E½ except MS-759 patent	317.00
SM0258	sec. 30, E½ SW¼	80.00
SM0262[1]	sec. 31, NE¼	160.00
SM0033	sec. 31, S½SW¼SE¼SE¼	5.00
SM0262[1]	sec. 31, E½NW¼	80.00
SM0262[1]	sec. 31, N½SE¼	80.00
SM0262[1]	sec. 31, SE¼SE¼	40.00
SM0262[1]	sec. 32, lot 1	13.00
SM0262[1]	sec. 32, lot 2	17.62
SM0262[1]	sec. 32, lot 3	25.35
SM0262[1]	sec. 32, lot 4	7.33
SM0262[1]	sec. 32, lot 5	12.59
SM0262[1]	sec. 32, lot 6	21.78
SM0262[1]	sec. 32, lot 7	9.61
SM0263	sec. 33, SE¼SW¼	40.00
	T. 13 S., R. 42 E.,	
SM0264	sec. 33, NE¼NE¼	40.00
	T. 14 S., R. 38 E.,	
SM0245	sec. 3, lot 4	39.74
SM0245	sec. 3, SW¼NW¼	40.00
SM0246	sec. 9, NE¼SW¼	40.00
SM0247	sec. 10, NW¼SW¼	40.00
SM0248	sec. 13, W½SW¼	80.00
SM0248	sec. 13, SE¼SW¼	40.00
SM0248	sec. 13, SW¼SE¼	40.00
SM0248	sec. 14, S½NE¼	80.00
SM0248	sec. 14, E½SE¼	80.00
SM0248	sec. 23, NE¼NE¼	40.00
SM0249	sec. 24, NE¼SW¼	40.00
SM0248	sec. 24, W½NW¼	80.00
	T. 14 S., R. 39 E.,	
SM0244	sec. 4, lot 1	39.45
SM0244	sec. 4, lot 2	39.46
SM0244	sec. 4, lot 3	39.48
SM0265	sec. 5, SE¼MW	40.00
SM0266	sec. 7, lot 3	35.49
SM0267	sec. 17, NE¼SW¼	40.00
SM0267	sec. 17, N½SE¼	80.00
SM0268	sec. 19, E½NE¼	80.00
SM0268	sec. 20, SW¼NW¼	40.00
SM0268	sec. 20, N½SW¼	80.00
SM0269	sec. 30, lot 6	3.48
SM0269	sec. 30, lot 7	2.99
SM0269	sec. 30, lot 8	2.50
SM0269	sec. 30, lot 9	1.74
SM0298	sec. 34, NW¼	160.00
SM0298	sec. 34, S½	320.00
	T. 14 S., R. 40 E.,	
SM0270	sec. 3, S½NW¼	80.00
SM0270	sec. 3, N½SW¼	80.00
SM0270	sec. 4, lot 2	40.36
SM0270	sec. 4, S½NE¼	80.00
SM0270	sec. 4, N½SE¼	80.00
SM0271	sec. 7, NE¼NE¼	40.00
SM0051	sec. 9, NW¼NE¼	40.00
	T. 14 S., R. 41 E.,	
SM0263	sec. 4, lot 3	40.18
SM0273	sec. 5, lot 2	40.07
SM0292	sec. 12, SW¼SW¼	40.00
SM0289	sec. 15, SE¼NE¼	40.00
SM0290	sec. 17, SW¼SW¼	40.00
SM0291	sec. 20, NE¼	160.00
SM0291	sec. 20, NE¼NW¼	40.00
SM0291	sec. 20, N½SE¼	80.00
SM0291	sec. 20, SE¼SE¼	40.00
SM0291	sec. 21, N½	320.00
SM0274	sec. 22, E½SE¼	80.00
SM0275	sec. 23, SW¼NW¼	40.00
SM0293	sec. 24, S½NE¼	80.00
SM0293	sec. 24, SW¼NW¼	40.00

Tract	Legal Description	Acres
SM0293	sec. 24, W"SW"	80.00
SM0293	sec. 24, SE"SW"	40.00
SM0293	sec. 24, NE"SE"	40.00
SM0293	sec. 24, S"SE"	80.00
SM0276	sec. 34, S"NW"	80.00
	T. 14 S., R. 42 E.,	
SM0277	sec. 1, lot 3	40.15
SM0278	sec. 2, lot 3	0.09
SM0279	sec. 2, SW"SE"	40.00
SM0280	sec. 7, NE"SE"	40.00
SM0281	sec. 10, S"SE"	80.00
SM0282	sec. 11, SE"SE"	40.00
SM0281	sec. 11, S"SW"	80.00
SM0282	sec. 12, N"NW"	80.00
SM0282	sec. 12, SW"NW"	40.00
SM0282	sec. 12, SW"	160.00
SM0282	sec. 12, SE"SE"	40.00
SM0282	sec. 13, N"N"	160.00
SM0282	sec. 13, SW"NW"	40.00
SM0282	sec. 14, NE"NE"	40.00
SM0293	sec. 19, lot 2	40.34
SM0293	sec. 19, S"NE"	0.00
SM0293	sec. 19, SE"NW"	40.00
SM0293	sec. 19, NE"SE"	40.00
SM0283	sec. 22, All	640.00
SM0283	sec. 23, S"	320.00
SM0284	sec. 24, SE"SE"	40.00
SM0284	sec. 25, N"NE"	80.00
SM0283	sec. 26, NW"NE"	40.00
SM0283	sec. 26, N"NW"	80.00
	T. 14 S., R. 43 E.,	
SM0285	sec. 6, lot 7	59.61
SM0285	sec. 6, SE"SW"	40.00
SM0286	sec. 7, NE"NE"	40.00
SM0287	sec. 7, SW"SE"	40.00
SM0288	sec. 18, lot 3	59.44
SM0284	sec. 30, lot 1	57.58
SM0284	sec. 30, lot 2	57.20
SM0284	sec. 30, lot 3	56.84
SM0284	sec. 30, lot 4	56.28
SM0284	sec. 30, NE"NW"	40.00
	T. 15 S., R. 37 E.,	
SM0294	sec. 20, NE"NE"	40.00
SM0294	sec. 20, S"NE"	80.00
SM0294	sec. 20, N"SE"	80.00
SM0295	sec. 28, NE"SE"	40.00
SM0296	sec. 32, NE"NW"	40.00
SMC297	sec. 32, SW"NW"	40.00
SM0297	sec. 32, SW"	160.00
	T. 15 S., R. 39 E.,	
SM0299	sec. 4, lot 1	41.17
SM0299	sec. 4, S"NE"	80.00
SM0299	sec. 4, SE"NW"	40.00
SM0299	sec. 4, NE"SW"	40.00
SM0299	sec. 4, S"SW"	80.00
SM0299	sec. 4, SE"	160.00
SM0300	sec. 10, NE"	160.00
SM0300	sec. 10, E"NW"	80.00
SM0300	sec. 10, NE"SW"	40.00
SM0300	sec. 10, N"SE"	80.00
SM0301	sec. 12, All	640.00
SM0302	sec. 26, NW"	160.00
SM0305	sec. 26, SE"SE"	40.00
SM0302	sec. 26, W"SW"	80.00
SM0302	sec. 27, All	640.00
SM0303	sec. 29, W"NE"	80.00
SM0303	sec. 29, SE"NE"	40.00
SM0303	sec. 29, SE"NW"	40.00
SM0303	sec. 29, SW"	160.00
SM0303	sec. 29, SW"SE"	40.00
SM0304	sec. 34, SE"SE"	40.00
SM0304	sec. 35, SW"SW"	40.00
SM0302	sec. 35, W"NW"	80.00
SM0305	sec. 35, E"E"	160.00
SM0305	sec. 36, All	640.00
	T. 15 S., R. 40 E.,	
SM0306	sec. 23, S"SE"	80.00
SM0308	sec. 29, SW"NW"	40.00
SM0307	sec. 29, SE"NE"	40.00
SM0307	sec. 29, NE"SE"	40.00
SM0305	sec. 30, lot 2	39.87
SM0305	sec. 30, lot 3	39.86
SM0305	sec. 30, lot 4	39.85
SM0305	sec. 30, SE"NW"	40.00
SM0305	sec. 30, E"SW"	80.00
SM0305	sec. 30, W"SE"	80.00
SM0305	sec. 30, SE"SE"	40.00
SM0305	sec. 31, lot 1	39.92
SM0305	sec. 31, lot 2	39.94
SM0305	sec. 31, lot 3	39.96
SM0305	sec. 31, lot 4	39.98
SM0305	sec. 31, W"NE"	80.00
SM0305	sec. 31, SE"NE"	40.00
SM0305	sec. 31, E"W"	160.00
SM0305	sec. 31, SE"	160.00
	T. 15 S., R. 41 E.,	
SM0309	sec. 4, lot 2	40.34
SM0309	sec. 4, lot 3	40.38
SM0309	sec. 4, lot 4	40.42
SM0309	sec. 4, SW"NW"	40.00
SM0309	sec. 4, NW"SW"	40.00
SM0310	sec. 18, NE"NE"	40.00
SM0311	sec. 19, SE"SE"	40.00
SM0312	sec. 32, NW"NW"	40.00
SM0313	sec. 35, NW"NW"	40.00
	T. 15 S., R. 42 E.,	
SM0314	sec. 14, NE"	160.00
SM0034	sec. 14, NE"	160.00
SM0315	sec. 18, E"E"	160.00
SM0035	sec. 27, E"NW"NE"	20.00
SM0316	sec. 35, SW"NE"	40.00

Tract	Legal Description	Acres
SM0316	sec. 35, S'	320.00
	T. 15 S., R. 43 E.,	
SM0003	sec. 32, NE'NE'SE'	10.00
	T. 15 S., R. 44 E.,	
SM0014	sec. 14, N'SW'NE'	20.00
SM0014	sec. 14, NW'SE'NE'	10.00
	T. 15 S., R. 45 E.,	
SM0010	sec. 16, SE'NW'SW'	10.00
SM0022	sec. 16, NW'NW'SE'	10.00
SM0011	sec. 17, S'SE'SW'SE'	5.00
SM0012	sec. 18, W'SW'NE'SW'	5.00
SM0013	sec. 20, NW'SW'NE'	10.00
SM0013	sec. 20, N'SE'NW'	20.00
	T. 16 S., R. 37 E.,	
SM0318	sec. 8, SW'	160.00
SM0321	sec. 13, S'NW'	80.00
SM0321	sec. 13, W'SW'	80.00
SM0320	sec. 18, SE'SW'	40.00
SM0319	sec. 18, E'NE'	80.00
SM0320	sec. 18, S'SE'	80.00
	T. 16 S., R. 38 E.,	
SM0322	sec. 2, SW'NE'	40.00
SM0323	sec. 12, NE'NE'	40.00
SM0324	sec. 13, SE'NE'	40.00
SM0324	sec. 13, NE'SE'	40.00
	T. 16 S., R. 39 E.,	
SM0305	sec. 1, lot 1	39.96
SM0305	sec. 1, lot 2	39.89
SM0305	sec. 1, lot 3	39.81
SM0305	sec. 1, lot	439.74
SM0305	sec. 1, S'N'	160.00
SM0304	sec. 2, lot 4	41.02
SM0305	sec. 2, lot 1	39.88
SM0305	sec. 2, lot 2	40.26
SM0304	sec. 2, SW'NW'	40.00
SM0305	sec. 2, SE'NE'	40.00
SM0305	sec. 2, NE'SE'	40.00
SM0304	sec. 3, lot 1	41.31
SM0304	sec. 3, SE'NE'	40.00
SM0323	sec. 6, E'SW'	80.00
SM0323	sec. 6, W'SE'	80.00
SM0323	sec. 7, lot 1	35.29
SM0323	sec. 7, N'NE'	80.00
SM0323	sec. 7, E'NW'	80.00
SM0323	sec. 7, NE'SW'	40.00
SM0325	sec. 12, NW'NE'	40.00
SM0324	sec. 18, lot 2	35.49
	T. 16 S., R. 40 E.,	
SM0326	sec. 4, lot 2	40.27
SM0327	sec. 10, SE'NE'	40.00
SM0327	sec. 10, E'SE'	80.00
SM0328	sec. 12, E'SW'	80.00
SM0328	sec. 12, W'SE'	80.00

Tract	Legal Description	Acres
SM0328	sec. 13, W'NE'	80.00
SM0328	sec. 13, N'NW'	80.00
SM0328	sec. 13, SE'NW'	40.00
SM0328	sec. 13, NW'SE'	40.00
SM0328	sec. 14, N'NE'	80.00
SM0327	sec. 14, SW'NW'	40.00
SM0327	sec. 14, NW'SW'	40.00
SM0327	sec. 15, NE'	160.00
SM0327	sec. 15, N'SE'	80.00
SM0329	sec. 17, S'SE'	80.00
SM0329	sec. 20, E'	320.00
SM0329	sec. 21, W'NW'	80.00
SM0330	sec. 21, SE'SE'	40.00
SM0329	sec. 21, NW'SW'	40.00
SM0331	sec. 22, NE'NE'	40.00
SM0332	sec. 22, E'SW'	80.00
SM0329	sec. 29, N'NE'	80.00
SM0329	sec. 29, NE'NW'	40.00
	T. 16 S., R. 41 E.,	
SM0333	sec. 5, lot 1	45.03
SM0334	sec. 8, SW'	160.00
SM0334	sec. 8, W'SE'	80.00
SM0334	sec. 17, E'	320.00
SM0335	sec. 17, SW'SW'	40.00
SM0335	sec. 18, SE'SE'	40.00
SM0335	sec. 19, NE'NE'	40.00
SM0334	sec. 20, NE'	160.00
SM0334	sec. 21, W'NW'	80.00
SM0336	sec. 24, NW'NW'	40.00
SM0337	sec. 31, lot 3	26.56
SM0337	sec. 31, lot 4	26.89
SM0337	sec. 31, lot 9	27.22
	T. 16 S., R. 42 E.,	
SM0316	sec. 1, lot 1	41.26
SM0316	sec. 1, lot 2	41.19
SM0316	sec. 1, lot 3	41.11
SM0316	sec. 1, lot 4	41.04
SM0316	sec. 1, S'N'	160.00
SM0316	sec. 2, lot 1	40.98
SM0316	sec. 2, lot 2	40.96
SM0316	sec. 2, lot 3	40.93
SM0316	sec. 2, lot 4	40.91
SM0316	sec. 2, S'N'	160.00
SM0316	sec. 2, W'SW'	80.00
SM0316	sec. 3, lot 1	40.84
SM0317	sec. 3, lot 3	40.60
SM0316	sec. 3, SE'NE'	40.00
SM0316	sec. 3, NE'SE'	40.00
SM0316	sec. 3, S'SE'	80.00
	T. 16 S., R. 46 E.,	
SM0046	sec. 3, lot 1	67.17
SM0046	sec. 3, lot 2	67.27
SM0047	sec. 3, S'NW'	80.00
SM0047	sec. 3, SW'	160.00
SM0038	sec. 4, N'S'SW'NW'	10.00
SM0038	sec. 4, NW'SW'SE'NW'	2.50
SM0038	sec. 5, lot 1	67.51

Tract	Legal Description	Acres
SM0038	sec. 5, N½SE¼NE¼	20.00
SM0038	sec. 5, S½SE¼NE¼	20.00
SM0048	sec. 9, SE¼SE¼	40.00
SM0048	sec. 10, S½S½	160.00
SM0056	sec. 13, NW¼SE¼	40.00
SM0017	sec. 15, SW¼NE¼SE¼	10.00
SM0338	sec. 23, SE¼SE¼	40.00
SM0339	sec. 27, S½	320.00
SM0339	sec. 28, SE¼SE¼	40.00
SM0340	sec. 32, NE¼SW¼	40.00
SM0341	sec. 32, SW¼SE¼	40.00
SM0339	sec. 32, SE¼NE¼	40.00
SM0339	sec. 33, N½NE¼	80.00
SM0339	sec. 33, SE¼NE¼	40.00
SM0339	sec. 33, NW¼	160.00
SM0339	sec. 33, N½SW¼	80.00
SM0339	sec. 34, W½NE¼	80.00
SM0339	sec. 34, N½NW¼	80.00
SM0339	sec. 34, SE¼NW¼	40.00
SM0339	sec. 34, NW¼SE¼	40.00
SM0342	sec. 35, SW¼SE¼	40.00
	T. 16 S., R. 47 E.,	
SM0053	sec. 7, lot 4	39.83
SM0053	sec. 7, SE¼SW¼	40.00
SM0053	sec. 18, lot 1	40.00
SM0053	sec. 18, lot 2	40.00
SM0054	sec. 18, lot 4	40.00
SM0055	sec. 18, NE¼SW¼	40.00
	T. 17 S., R. 39 E.,	
SM0346	sec. 28, SE¼SE¼	40.00
	T. 17 S., R. 44 E.,	
SM0347	sec. 2, SW¼	160.00
	T. 17 S., R. 46 E.,	
SM0342	sec. 2, lot 1	40.10
SM0342	sec. 2, lot 2	40.18
SM0342	sec. 2, S½NE¼	80.00
SM0343	sec. 3, lot 3	40.15
SM0343	sec. 3, lot 4	40.05
SM0344	sec. 4, lot 4	40.11
SM0344	sec. 5, lot 1	40.23
SM0345	sec. 5, SW¼SW¼	40.00
	T. 18 S., R. 36 E.,	
SM0021	sec. 24, NE¼NE¼NW¼	10.00
	T. 18 S., R. 40 E.,	
SM0007	sec. 3, lot 4	38.92
SM0018	sec. 8, SW¼SW¼NW¼NE¼	2.50
SM0018	sec. 8, S½S½NE¼NW¼	10.00
SM00[illegible]	sec. 8, SE¼SE¼NW¼NW¼	2.50
SM0019	sec. 9, S½S½SW¼NE¼	10.00
SM0019	sec. 9, S½SE¼NW¼	20.00
SM0020	sec. 10, SW¼SW¼NE¼SE¼	2.50
	T. 18 S., R. 41 E.,	
SM0024	sec. 14, NE¼NE¼	40.00
SM0025	sec. 14, SW¼SW¼	40.00
SM0026	sec. 17, E½E½NE¼NW¼	10.00
	T. 18 S., R. 42 E.,	
SM0008	sec. 19, lot 3	40.20
SM0008	sec. 19, lot 4	40.07
	T. 19 S., R. 37 E.,	
SM0023	sec. 1, SE¼NW¼	40.00
SM0049	sec. 1, W½NW¼NE¼	20.00
	T. 19 S., R. 39 E.,	
SM0348	sec. 8, S½SW¼	80.00
SM0349	sec. 8, E½SE¼	80.00
SM0351	sec. 16, N½SE¼	80.00
SM0350	sec. 16, SW¼NW¼	40.00
SM0352	sec. 17, E½SE¼	80.00
	T. 19 S., R. 40 E.,	
SM0353	sec. 9, NW¼SE¼	40.00
SM0354	sec. 10, SW¼NW¼	40.00
	T. 19 S., R. 43 E.,	
SM0002	sec. 4, lot 2	40.86
	T. 19 S., R. 45 E.,	
SM0004	sec. 6, NW¼SE¼NE¼	10.00
	T. 20 S., R. 37 E.,	
SM0001	sec. 26, W½SW¼NW¼SW¼	5.00
SM0050	sec. 35, NE¼SE¼	40.00
	T. 20 S., R. 39 E.,	
SM0036	sec. 28, SE¼SE¼SW¼	10.00
	T. 20 S., R. 44 E.,	
SM0030	sec. 2, SW¼NE¼	40.00
SM0030	sec. 2, NW¼SE¼	40.00
SM0031	sec. 3, E½NW¼SW¼	20.00
SM0031	sec. 3, E½NE¼SW¼SW¼	5.00
	T. 20 S., R. 45 E.,	
SM0037	sec. 10, N½NW¼SW¼SW¼	15.00
	T. 21 S., R. 37 E.,	
SM0356	sec. 9, E½E½NE¼	40.00
SM0356	sec. 9, E½NE¼SE¼	20.00
SM0356	sec. 10, W½SW¼NW¼	20.00
SM0356	sec. 10, W½NW¼SW¼	20.00
	T. 21 S., R. 38 E.,	
SM0032	sec. 9, S½SE¼SW¼SW¼	5.00
	T. 23 S., R. 46 E.,	
SM0009	sec. 28, NE¼SE¼NE¼	10.00
SM0015	sec. 33, W½W½NE¼SE¼	5.00
	T. 24 S., R. 36 E.,	
SM0365	sec. 35, S½SE¼	80.00

Tract	Legal Description	Acres
	T. 24 S., R. 46 E.,	
SM0016	sec. 4, lot 3	26.41
SM0016	sec. 4, lot 4	26.30
SM0016	sec. 4, lot 6	40.00
	T. 25 S., R. 36 E.,	
SM0365	sec. 2, lot 1	41.03
SM0365	sec. 2, lot 2	40.96
SM0365	sec. 2, lot 3	40.90
SM0365	sec. 2, S½NE¼	80.00
SM0365	sec. 2, SE¼NW¼	40.00
SM0365	sec. 2, NE¼SW¼	40.00
SM0365	sec. 2, S½SW¼	80.00
SM0365	sec. 2, SE¼	160.00
SM0366	sec. 10, NE¼	160.00
SM0366	sec. 10, E½SE¼	80.00
SM0367	sec. 12, All	640.00
SM0368	sec. 14, All	640.00
SM0369	sec. 24, All	640.00
	T. 25 S., R. 37 E.,	
SM0370	sec. 16, All	640.00
SM0371	sec. 18, lot 1	39.25
SM0371	sec. 18, lot 2	39.30
SM0371	sec. 18, lot 3	39.36
SM0371	sec. 18, lot 4	39.41
SM0371	sec. 18, E½	320.00
SM0371	sec. 18, E½W½	160.00
SM0372	sec. 20, All	640.00
SM0373	sec. 28, All	640.00
SM0374	sec. 30, lot 1	39.68
SM0374	sec. 30, lot 2	39.72
SM0374	sec. 30, lot 3	39.76
SM0374	sec. 30, lot 4	39.80
SM0374	sec. 30, E½	320.00
SM0374	sec. 30, E½W½	160.00
SM0375	sec. 32, S½	320.00
SM0377	sec. 34, N½NW¼	80.00
SM0376	sec. 34, E½NE¼	80.00
SM0376	sec. 34, SE¼	160.00
	T. 25 S., R. 38 E.,	
SM0378	sec. 35, S½NE¼	80.00
SM0378	sec. 35, SE¼NW¼	40.00
	T. 25 S., R. 40 E.,	
SM0379	sec. 25, W½SW¼	80.00
SM0379	sec. 26, SE¼SE¼	40.00
SM0379	sec. 35, E½NE¼	80.00
SM0380	sec. 36, S½SW¼	80.00
SM0380	sec. 36, SW¼SE¼	40.00
	T. 25 S., R. 41 E.,	
SM0381	sec. 30, lot 1	39.62
SM0381	sec. 30, E½NW¼	80.00
SM0381	sec. 30, NE¼SW¼	40.00
	T. 26 S., R. 36 E.,	
SM0045	sec. 4, SE¼SE¼SW¼NE¼	2.50

Tract	Legal Description	Acres
SM0045	sec. 4, S½S½S½SE¼NE¼	5.00
SM0382	sec. 8, W½NW¼	80.00
SM0383	sec. 22, All	640.00
SM0385	sec. 26, NE¼SE¼	40.00
SM0384	sec. 26, N½N½	160.00
SM0384	sec. 26, SW¼NW¼	40.00
SM0385	sec. 26, S½SE¼	80.00
SM0052	sec. 28, NE¼SE¼NE¼	10.00
SM0386	sec. 36, SW¼SW¼	40.00
SM0387	sec. 36, E½SE¼	80.00
	T. 26 S., R. 37 E.,	
SM0393	sec. 4, lot 1	52.84
	T. 26 S., R. 39 E.,	
SM0391	sec. 14, S½SE¼	80.00
SM0390	sec. 14, NE¼NW¼	40.00
SM0389	sec. 22, W½NE¼	80.00
SM0389	sec. 22, SE¼NE¼	40.00
SM0389	sec. 22, NW¼	160.00
SM0392	sec. 34, W½SW¼	80.00
	T. 26 S., R. 40 E.,	
SM0380	sec. 1, lot 4	13.78
SM0380	sec. 1, NW¼SW¼	40.00
SM0394	sec. 18, SW¼SE¼	40.00
SM0394	sec. 19, N½NE¼	80.00
SM0395	sec. 19, SE¼SE¼	40.00
SM0394	sec. 19, NE¼NW¼	40.00
SM0395	sec. 20, W½SW¼	80.00
SM0395	sec. 20, SE¼SW¼	40.00
SM0395	sec. 20, S½SE¼	80.00
SM0395	sec. 29, N½NE¼	80.00
SM0395	sec. 29, SW¼NE¼	40.00
SM0395	sec. 29, W½	320.00
SM0395	sec. 29, SE¼	160.00
SM0395	sec. 30, E½	320.00
SM0395	sec. 31, lot 4	37.66
SM0395	sec. 31, lot 5	41.20
SM0395	sec. 31, lot 6	40.72
SM0395	sec. 31, lot 7	40.24
SM0395	sec. 31, N½NE¼	80.00
SM0395	sec. 31, SE¼NE¼	40.00
SM0395	sec. 31, NE¼SE¼	40.00
SM0395	sec. 32, N½NE¼	80.00
SM0395	sec. 32, SW¼NE¼	40.00
SM0395	sec. 32, W½	320.00
SM0395	sec. 32, W½SE¼	80.00
SM0396	sec. 33, S½SE¼	30.00
SM0395	sec. 33, W½NW¼	80.00
SM0395	sec. 33, SE¼NW¼	40.00
	T. 26 S., R. 42 E.,	
SM0397	sec. 24, S½NE¼	80.00
SM0397	sec. 24, NW¼SE¼	40.00
	T. 26 S., R. 46 E.,	
SM0027	sec. 4, lot 3	41.01
SM0028	sec. 28, SW¼SW¼SW¼SW¼	2.50

Tract	Legal Description	Acres
	T. 27 S., R. 36 E.,	
SM0388	sec. 1, lot 2	40.23
SM0388	sec. 1, SW¼NE¼	40.00
SM0388	sec. 1, NW¼SE¼	40.00
	T. 27 S., R. 40 E.,	
SM0395	sec. 6, lot 3	40.72
SM0395	sec. 6, lot 4	36.87
SM0395	sec. 6, lot 5	35.95
SM0395	sec. 6, lot 6	35.25
SM0395	sec. 6, lot 7	34.55
SM0395	sec. 6, SE¼NW¼	40.00
SM0395	sec. 6, E½SW¼	80.00
SM0395	sec. 7, lot 1	34.12
SM0395	sec. 7, N½NE¼	160.00
SM0395	sec. 7, NE¼NW¼	40.00
	T. 27 S., R. 45 E.,	
SM0029	sec. 26, W½W½NW¼SW¼	10.00
	T. 27 S., R. 46 E.,	
SM0039	sec. 13, SW¼SW¼SE¼SW¼	2.50
SM0040	sec. 14, E½NE¼SE¼	20.00
SM0041	sec. 14, NE¼NE¼SW¼	10.00
SM0039	sec. 24, NE¼NW¼	40.00
SM0042	sec. 25, E½E½SE¼NW¼	10.00
	T. 27 S., R. 47 E.,	
SM0043	sec. 31, lot 2	33.47
	T. 28 S., R. 44 E.	
SM0193	sec. 14, W½NW¼SE¼	20.00
SM0194	sec. 23, W½NE¼NE¼	20.00
	T. 28 S., R. 45 E.	
SM0206	sec. 19, E½SW¼SE¼	20.00
SM0206	sec. 19, SW¼SW¼SE¼	10.00
SM0207	sec. 20, N½SE¼NE¼	20.00
SM0208	sec. 26, S½SE¼NE¼	20.00
SM0209	sec. 26, S½NW¼SW¼	20.00
	T. 28 S., R. 46 E.	
SM0228	sec. 14, NE¼NE¼	40.00
SM0229	sec. 14, N½NW¼	80.00
SM0044	sec. 14, SE¼NE¼NE¼	10.00
SM0229	sec. 14, SE¼NW¼	40.00
SM0229	sec. 14, NE¼SW¼	40.00
SM0229	sec. 14, S½SW¼	80.00
SM0229	sec. 15, SE¼SE¼	40.00
SM0230	sec. 15, NW¼NW¼	40.00
	Subtotal	37,744.61

Jordan Resource Area

Tract	Legal Description	Acres
	T. 28 S., R. 36 E.	
SJ0448	sec. 14, SW¼SW¼	40.00
	T. 28 S., R. 37 E.	
SJ0449	sec. 3, NW¼SE¼	40.00
	T. 28 S., R. 44 E.	
SJ0195	sec. 25, SW¼NW¼SE¼	10.00
SJ0197	sec. 36, N½NE¼SW¼	20.00
SJ0196	sec. 36, SE¼NE¼	40.00
	T. 28 S., R. 45 E.	
SJ0210	sec. 34, N½N½SE¼NE¼	10.00
SJ0210	sec. 35, N½NW¼NE¼	20.00
SJ0210	sec. 35, N½N½SE¼NW¼	10.00
SJ0210	sec. 35, N½N½SW¼NW¼	10.00
	T. 28 S., R. 46 E.	
SJ0179	sec. 13, SE¼NE¼	40.00
SJ0178	sec. 26, N½N½SE¼NW¼	10.00
SJ0192	sec. 30, lot 2	40.80
	T. 29 S., R. 41 E.	
SJ0180	sec. 11, N½NE¼NE¼	20.00
	T. 29 S., R. 44 E.	
SJ0181	sec. 16, SW¼SE¼	40.00
SJ0182	sec. 20, E½SE¼	80.00
SJ0183	sec. 21, SW¼NW¼	40.00
SJ0184	sec. 28, N½NE¼SE¼	20.00
SJ0182	sec. 29, E½NE¼	80.00
SJ0182	sec. 29, N½NE¼SE¼	20.00
SJ0182	sec. 29, N½S½NE¼SE¼	10.00
	T. 29 S., R. 46 E.	
SJ0232	sec. 15, NW¼NW¼	40.00
SJ0232	sec. 15, NW¼NW¼	40.00
SJ0233	sec. 34, SE¼NE¼	40.00
SJ0233	sec. 34, SE¼NE¼	40.00
SJ0233	sec. 34, E½SE¼	80.00
SJ0233	sec. 34, E½SE¼	80.00
SJ0444	sec. 35, SE¼	160.00
	T. 29 S., R. 47 E.	
SJ0235	sec. 30, lot 3	35.72
SJ0235	sec. 30, lot 4	35.67
	T. 30 S., R. 38 E.	
SJ0149	sec. 1, N½N½N½NW¼SW¼	5.00
SJ0149	sec. 2, N½NE¼NE¼NE¼SE¼	1.25
	T. 30 S., R. 43 E.	
SJ0222	sec. 14, W½	320.00
SJ0224	sec. 20,	640.00
SJ0223	sec. 26,	640.00
	T. 30 S., R. 44 E.	
SJ0212	sec. 2, lot 1	40.40
SJ0212	sec. 2, lot 2	40.22
SJ0212	sec. 2, lot 3	40.03
SJ0212	sec. 2, lot 4	39.85
SJ0212	sec. 2, S½N½	160.00

Tract	Legal Description	Acres
SJ0212	sec. 2, S'	320.00
SJ0213	sec. 12,	640.00
SJ0214	sec. 28, NE'NE'	40.00
SJ0214	sec. 28, W'	320.00
SJ0214	sec. 28, SE'	160.00
SJ0214	sec. 28, W'NE'	80.00
	T. 30 S., R. 45 E.	
SJ0215	sec. 4, lot 1	40.22
SJ0215	sec. 4, lot 2	40.50
SJ0215	sec. 4, lot 3	40.78
SJ0215	sec. 4, lot 4	41.06
SJ0215	sec. 4, S'N'	160.00
SJ0215	sec. 4, N'S'	160.00
SJ0215	sec. 4, S'SW'	80.00
SJ0216	sec. 6, lot 1	40.54
SJ0216	sec. 6, lot 2	40.39
SJ0216	sec. 6, lot 3	40.23
SJ0216	sec. 6, lot 4	41.40
SJ0216	sec. 6, lot 5	41.29
SJ0216	sec. 6, lot 6	41.25
SJ0216	sec. 6, lot 7	41.22
SJ0216	sec. 6, S'NE'	80.00
SJ0216	sec. 6, SE'NW'	40.00
SJ0216	sec. 6, W'SW'	80.00
SJ0216	sec. 6, SE'	160.00
SJ0217	sec. 8, N'NE'	80.00
SJ0217	sec. 8, SE'NE'	40.00
SJ0217	sec. 8, W'	320.00
SJ0217	sec. 8, SE'	160.00
SJ0219	sec. 10, N'NE'	80.00
SJ0219	sec. 10, NE'NW'	40.00
SJ0219	sec. 10, S'N'	160.00
SJ0219	sec. 10, S'	320.00
SJ0220	sec. 16, W'E'	160.00
SJ0220	sec. 16, E'E'	160.00
SJ0220	sec. 16, SW'	160.00
SJ0218	sec. 18, lot 1	41.51
SJ0218	sec. 18, lot 2	41.54
SJ0218	sec. 18, lot 3	41.56
SJ0218	sec. 18, lot 4	41.59
SJ0218	sec. 18, E'	320.00
SJ0218	sec. 18, E'W'	160.00
SJ0221	sec. 20, All	640.00
SJ0174	sec. 32, lot 1	42.34
	T. 30 S., R. 46 E.	
SJ0234	sec. 2, lot 4	39.70
SJ0234	sec. 2, lot 4	39.70
SJ0205	sec. 8, SW'	160.00
	T. 30 S., R. 47 E.	
SJ0236	sec. 6, lot 1	37.33
SJ0236	sec. 6, lot 2	37.43
SJ0236	sec. 6, lot 3	37.52
SJ0236	sec. 6, lot 4	37.61
	T. 31 S., R. 41 E.	
SJ0152	sec. 8, E'SE'	80.00

Tract	Legal Description	Acres
SJ0151	sec. 10, N'	320.00
SJ0151	sec. 10, N'S'	160.00
SJ0151	sec. 10, S'SE'	80.00
SJ0153	sec. 12, S'SW'	80.00
SJ0450	sec. 14, W'SW'	80.00
SJ0154	sec. 14, NE'NE'	40.00
SJ0150[2]	sec. 18, E'SW'SE'	20.00
SJ0451[1]	sec. 20, E'	320.00
SJ0451[1]	sec. 20, E'W'	160.00
SJ0452[1]	sec. 22, S'	320.00
SJ0453[1]	sec. 26, All	640.00
SJ0454[1]	sec. 28, All	640.00
SJ0455[1]	sec. 34, All	640.00
SJ0456	sec. 36, W'	320.00
	T. 31 S., R. 42 E.	
SJ0171	sec. 13, NE'NE'SW'SW'	2.50
SJ0170	sec. 14, E'SE'SW'NE'	5.00
SJ0170	sec. 14, W'NW'SE'	20.00
SJ0169	sec. 14, N'NE'SE'SE'	5.00
SJ0169	sec. 14, NW'SE'SE'	10.00
SJ0172	sec. 24, NE'NE'NW'	10.00
SJ0173	sec. 24, N'N'NE'SE'	10.00
SJ0168[2]	sec. 30, SE'NW'	4.00
	T. 32 S., R. 40 E.	
SJ0155	sec. 14, All	639.64
SJ0156	sec. 22, All	640.00
SJ0157	sec. 24, All	640.00
SJ0158	sec. 26, All	640.00
SJ0159	sec. 36, All	640.00
	T. 32 S., R. 41 E.	
SJ0164[1]	sec. 4, lot 1	40.14
SJ0164[1]	sec. 4, lot 2	39.99
SJ0164[1]	sec. 4, lot 3	39.83
SJ0164[1]	sec. 4, lot 4	39.68
SJ0164[1]	sec. 4, S'N'	160.00
SJ0164[1]	sec. 4, S'	20.00
SJ0165	sec. 6, lot 4	39.86
SJ0165	sec. 6, lot 5	39.85
SJ0165	sec. 6, lot 6	39.75
SJ0166[1]	sec. 8, All	640.00
SJ0167	sec. 18, lot 1	40.33
SJ0167	sec. 18, lot 2	40.36
SJ0167	sec. 18, lot 3	40.38
SJ0167	sec. 18, lot 4	40.41
SJ0167	sec. 18, E'	320.00
SJ0167	sec. 18, E'W'	160.00
	T. 32 S., R. 44 E.,	
SJ0175	sec. 4, SE'SE'SW'	10.00
SJ0176	sec. 9, W'NW'NE'NE'	5.00
SJ0177	sec. 16, W'NW'NW'NE'	5.00
	T. 32 S., R. 45 E.,	
SJ0198	sec. 3, SE'NE'SE'	10.00
SJ0199	sec. 9, SE'SW'NE'	10.00
SJ0200	sec. 9, S'NE'SW'	20.00

Tract	Legal Description	Acres
SJ0201	sec. 10, NW¼NE¼NW¼	10.00
SJ0202	sec. 11, W½NE¼NE¼	20.00
SJ0203	sec. 33, S½SE¼NE¼	20.00
	T. 32 S., R. 46 E.,	
SJ0185	sec. 14, S½S½SW¼SE¼	10.00
SJ0185	sec. 14, S½S½SE¼SE¼	10.00
SJ0187	sec. 23, E½NE¼SW¼NW¼	5.00
SJ0186	sec. 23, NE¼NW¼	40.00
SJ0187	sec. 23, E½SW¼SW¼NW¼	5.00
SJ0187	sec. 23, SE¼SW¼NW¼	10.00
SJ0187	sec. 23, E½NW¼SW¼	20.00
SJ0187	sec. 23, E½W½NW¼SW¼	10.00
SJ0187	sec. 23, N½NE¼SW¼SW¼	5.00
SJ0187	sec. 23, NE¼NW¼SW¼SW¼	2.50
SJ0188	sec. 27, W½NW¼NE¼NW¼	5.00
SJ0189	sec. 27, SW¼SW¼SW¼	10.00
SJ0190	sec. 28, S½SW¼NE¼SW¼	5.00
SJ0191	sec. 34, N½SW¼NW¼	20.00
	T. 33 S., R. 39 E.,	
SJ0144	sec. 14, S½NE¼	80.00
SJ0145	sec. 14, SW¼NW¼	40.00
SJ0146	sec. 22, E½NE¼NW¼NE¼	5.00
SJ0147	sec. 24, E½	320.00
SJ0148	sec. 36, E½E½	160.00
SJ0457	sec. 36, W½E½	160.00
SJ0457	sec. 36, W½	320.00
	T. 33 S., R. 40 E.,	
SJ0160	sec. 12, All	640.00
SJ0161	sec. 16, All	640.00
SJ0162	sec. 24, NE¼	160.00
SJ0162	sec. 24, NE¼NW¼	40.00
SJ0162	sec. 24, E½SE¼	80.00
SJ0163	sec. 36, All	640.00
	T. 33 S., R. 45 E.,	
SJ0204	sec. 4, lot 1	39.87
	T. 33 S., R. 46 E.,	
SJ0226	sec. 27, S½NW¼SW¼	20.00
SJ0226	sec. 27, W½SW¼SE¼	20.00
SJ0226	sec. 28, S½NE¼SE¼	20.00
SJ0227	sec. 34, W½NW¼NE¼	20.00
	T. 33.50 S., R. 39 E.,	
SJ0457	sec. 36, lot 3	25.11
SJ0148	sec. 36, lot 1	25.36
SJ0148	sec. 36, lot 2	25.20
SJ0457	sec. 36, lot 4	24.93
SJ0148	sec. 36, SE¼	160.00
SJ0457	sec. 36, SW¼	160.00
	T. 33.50 S., R. 40 E.,	
SJ0163	sec. 36, lot 1	21.84
SJ0163	sec. 36, lot 2	26.17
SJ0163	sec. 36, lot 3	26.15
SJ0163	sec. 36, lot 4	26.12
SJ0163	sec. 36, lot 5	33.38
SJ0163	sec. 36, lot 6	33.42
SJ0163	sec. 36, SW¼	160.00
SJ0163	sec. 36, W½SE¼	80.00
	T. 37 S., R. 37 E.,	
SJ0225	sec. 4, W½SW¼SW¼NE¼	5.00
SJ0225	sec. 4, W½W½NW¼SE¼	10.00
	T. 37 S., R. 46 E.,	
SJ0141	sec. 30, E½NE¼SE¼SE¼	5.00
SJ0141	sec. 30, SE¼SE¼SE¼	10.00
SJ0142	sec. 31, SE¼SE¼NW¼NE¼	2.50
	T. 38 S., R. 41 E.,	
SJ0143	sec. 30, lot 1	40.76
SJ0143	sec. 30, lot 2	40.69
	T. 40 S., R. 40 E.,	
SJ0131	sec. 22, S½NE¼SE¼SE¼	5.00
SJ0131	sec. 22, SE¼SE¼SE¼	10.00
SJ0131	sec. 23, S½NW¼SW¼SW¼	5.00
SJ0131	sec. 23, SW¼SW¼SW¼	10.00
	T. 40 S., R. 42 E.,	
SJ0129	sec. 34, S½SW¼	80.00
SJ0129	sec. 34, SW¼SE¼	40.00
SJ0126	sec. 36, E½SE¼	80.00
SJ0126	sec. 36, E½SW¼SE¼	20.00
	T. 40 S., R. 43 E.,	
SJ0118	sec. 21, N½NW¼NW¼SW¼	5.00
SJ0119	sec. 29, NE¼NE¼	40.00
SJ0120	sec. 29, NE¼SE¼NE¼NW¼	2.50
SJ0120	sec. 29, S½SE¼NE¼NW¼	5.00
SJ0121	sec. 29, SE¼SE¼SW¼NW¼	2.50
SJ0122	sec. 29, N½SE¼SW¼	20.00
SJ0122	sec. 29, N½SW¼SE¼SW¼	5.00
SJ0123	sec. 29, NW¼NW¼SE¼	10.00
SJ0123	sec. 29, N½SW¼NW¼SE¼	5.00
SJ0124	sec. 30, SE¼NE¼SE¼	10.00
SJ0125	sec. 30, E½SE¼SW¼SE¼	5.00
SJ0126	sec. 31, lot 4	34.10
SJ0128	sec. 31, N½NW¼SE¼NE¼	5.00
SJ0128	sec. 31, SW¼NW¼SE¼NE¼	2.50
SJ0127	sec. 31, N½NE¼SW¼	20.00
SJ0127	sec. 31, SW¼NE¼SW¼	10.00
SJ0127	sec. 31, NW¼NW¼NW¼SE¼	2.50
	T. 41 S., R. 39 E.,	
SJ0109	sec. 10, S½N½SW¼NE¼	10.00
SJ0109	sec. 10, S½SW¼NE¼	20.00
SJ0109	sec. 10, SW¼SW¼SE¼NE¼	2.50
SJ0110	sec. 11, SW¼NW¼SW¼	10.00
SJ0111	sec. 11, SW¼SW¼SE¼SW¼	2.50
SJ0113	sec. 13, S½S½SW¼NW¼	10.00
SJ0112	sec. 14, S½SW¼NW¼NE¼	5.00
SJ0113	sec. 14, S½NW¼SE¼NE¼	5.00
SJ0113	sec. 14, S½SE¼NE¼	20.00

Tract	Legal Description	Acres
SJ0114	sec. 14, NE¼NE¼SW¼NW¼	2.50
SJ0115	sec. 15, NE¼NE¼NE¼NE¼	2.50
SJ0117	sec. 22, lot 1	4.55
SJ0117	sec. 22, lot 2	4.36
SJ0117	sec. 22, lot 3	4.18
SJ0116	sec. 24, NE¼NW¼NE¼	10.00
SJ0116	sec. 24, NE¼NW¼NW¼NE¼	2.50
	T. 41 S., R. 40 E.,	
SJ0131	sec. 2, lot 5	20.00
SJ0131	sec. 2, NE¼NW¼	40.00
SJ0107	sec. 9, S½SE¼SW¼SE¼	5.00
SJ0107	sec. 9, SW¼SW¼SE¼SE¼	2.50
SJ0108	sec. 15, W½W½SW¼NW¼	10.00
SJ0105	sec. 17, S½S½SE¼SW¼	10.00
SJ0105	sec. 17, NE¼SE¼SE¼SW¼	2.50
SJ0105	sec. 17. S½SW¼SE¼	20.00
SJ0103	sec. 18, lot 4	35.39
SJ0104	sec. 19, lot 2	35.96
SJ0106	sec. 20, lot 2	38.12
	T. 41 S., R. 42 E.,	
SJ0130	sec. 4, N½SE¼	80.00
	T. 41 S., R. 43 E.,	
SJ0132	sec. 9, S½SE¼NE¼	20.00
SJ0132	sec. 9, NE¼SE¼	40.00
SJ0134	sec. 10, W½SW¼NE¼	20.00
SJ0133	sec. 10, S½N½NW¼	40.00
SJ0134	sec. 10, W½NE¼NW¼SE¼	5.00
SJ0134	sec. 10, W½NW¼SE¼	20.00
SJ0134	sec. 10, W½NW¼SW¼SE¼	5.00
SJ0135	sec. 14, W½SW¼SW¼NW¼	5.00
SJ0135	sec. 14, N½SW¼NW¼	20.00
SJ0135	sec. 14, E½SW¼SW¼NW¼	5.00
SJ0135	sec. 14, SE¼SW¼NW¼	10.00
SJ0140	sec. 14, W½W½E½SW¼	20.00
SJ0136	sec. 15, S½NE¼NE¼	20.00
SJ0136	sec. 15, E½SE¼NW¼NE¼	5.00
SJ0446	sec. 17, SW¼SW¼	40.00
SJ0137	sec. 17, S½SW¼SE¼SW¼NW¼	1.25
SJ0137	sec. 17, SE¼SE¼SW¼NW¼	2.50
SJ0138	sec. 17, N½NW¼NE¼SW¼	5.00
SJ0480	sec. 19, lot 5	5.82
SJ0481	sec. 19, lot 6	5.81
SJ0483	sec. 19, lot 7	5.82
SJ0445	sec. 19, lot 8	14.65
SJ0482	sec. 19, lot 10	4.26
SJ0447	sec. 20, lot 4	39.58
SJ0139	sec. 21, lot 1	41.77
	Subtotal	24,316.99
Andrews Resource Area		
	T. 33 S., R. 31 E.,	
SA0466	sec. 2, lot 3	40.87
SA0466	sec. 2, lot 4	40.35
SA0466	sec. 2, S½NW¼	80.00
SA0466	sec. 2, SW¼	160.00
SA0467	sec. 10, E½	320.00
SA0467	sec. 14, W½	320.00
SA0467	sec. 15, All	640.00
SA0468	sec. 17, E½	320.00
SA0469	sec. 21, S½	320.00
SA0467	sec. 22, NW¼	160.00
SA0467	sec. 23, NW¼	160.00
SA0470	sec. 30, lot 3	40.32
SA0470	sec. 30, lot 4	40.24
SA0470	sec. 30, E½SW¼	80.00
SA0470	sec. 30, SE¼	160.00
	T35 S., R. 31 E.,	
SA0471	sec. 1, lot 1	40.00
SA0471	sec. 1, lot 2	40.00
SA0471	sec. 1, lot 3	40.00
SA0471	sec. 1, lot 4	40.00
SA0471	sec. 1, S½N½	80.00
SA0471	sec. 1, S½	320.00
SA0471	sec. 12, All	640.00
SA0472	sec. 13, SW¼	160.00
SA0472	sec. 14, SE¼	160.00
	T. 35 S., R. 32 E.,	
SA0473	sec. 6, lot 4	39.97
SA0473	sec. 6, lot 5	40.08
SA0473	sec. 6, lot 6	40.13
SA0473	sec. 6, lot 7	40.18
SA0473	sec. 6, SE¼SW¼	40.00
SA0473	sec. 7, lot 1	40.22
SA0473	sec. 7, lot 2	40.26
SA0473	sec. 7, lot 3	40.30
SA0473	sec. 7, lot 4	40.34
SA0473	sec. 7, NE¼	160.00
SA0473	sec. 7, E½NW¼	80.00
SA0473	sec. 7, E½SW¼	80.00
SA0473	sec. 7, SE¼	160.00
SA0473	sec. 8, W½NW¼	80.00
SA0474	sec. 35, S½NW¼SW¼	20.00
	T. 35 S., R. 33 E.,	
SA0476	sec. 13, S½N½SE¼SW¼	10.00
SA0476	sec. 13, S½SE¼SW¼	20.00
SA0476	sec. 13, S½N½SW¼SE¼	10.00
SA0476	sec. 13, S½SW¼SE¼	20.00
SA0476	sec. 13, S½N½SE¼SE¼	10.00
SA0476	sec. 13, N½S½SE¼SE¼	10.00
SA0477	sec. 14, W½	320.00
SA0477	sec. 14, SE¼	160.00
SA0477	sec. 15, S½NE¼SW¼	10.00
SA0477	sec. 15, SE¼SW¼	40.00
SA0477	sec. 15, S½N½SE¼	20.00
SA0477	sec. 15, S½SE¼	80.00
SA0477	sec. 22, W½	320.00
SA0477	sec. 23, NE¼NE¼	40.00
SA0477	sec. 23, W½NE¼	80.00
SA0477	sec. 23, N½SE¼NE¼	20.00
SA0477	sec. 23, N½S½SE¼NE¼	10.00

Tract	Legal Description	Acres
SA0477	sec. 23, W"	320.00
SA0477	sec. 23, N"NE"SE"	20.00
SA0477	sec. 23, N"S"NE"SE"	10.00
SA0477	sec. 23, NW"SE"	40.00
SA0477	sec. 23, N"SW"SE"	20.00
SA0477	sec. 23, SE"SE"	40.00
SA0476	sec. 24, NE"	160.00
SA0476	sec. 24, E"NW"	80.00
SA0476	sec. 24, E"SW"	80.00
SA0476	sec. 24, SE"	160.00
SA0477	sec. 26, NW"	160.00
SA0477	sec. 27, NE"NE"	40.00
SA0477	sec. 27, N"NW"NE"	20.00
SA0477	sec. 27, S"NE"	80.00
SA0477	sec. 27, N"N"NW"	40.00
SA0477	sec. 27, SW"NW"	40.00
SA0477	sec. 27, N"SE"NW"	20.00
SA0477	sec. 27, N"SW"	80.00
SA0477	sec. 27, SW"SW"	40.00
SA0477	sec. 27, N"SE"SW"	20.00
SA0477	sec. 27, N"SE"	80.00
SA0477	sec. 27, N"SW"SE"	20.00
SA0477	sec. 27, SE"SE"	40.00
SA0477	sec. 34, NE"NE"	40.00
SA0477	sec. 34, NE"NW"NE"	10.00
SA0477	sec. 34, M&B in NW"NW"NE"	10.48
SA0477	sec. 34, S"NW"NE"	20.00
SA0477	sec. 34, S"NE"	80.00
SA0477	sec. 34, W"NW"	80.00
SA0477	sec. 34, S"	320.00
SA0477	sec. 35, M&B in W"NW"	58.00
SA0477	sec. 35, W"SW"	80.00
	T. 35.50 S., R. 32 E.,	
SA0475	sec. 30, E"	320.00
	Subtotal	9,151.74
	TOTAL	71,213.34

[1] May be encumbered by mining claims.
[2] Subject to reservation of Section 24 Federal Power Act.

Table L-5. Increased costs of alternative utility routing to bypass Owyhee River below the Dam ACEC (east-west electric transmission corridor dog leg option).

Design	Cost per mile	20-mile cost[1]
Single circuit 500 kV, lattice design		
Construction for 50/50 terrain[2]	$581,330	$11,626,600
Administrative and corporate overheads	$197,650	$3,953,000
Operations and maintenance	$1,767	$35,340
Losses, based on 1000mW average load, 60 percent LF	$12,197	$243,940
TOTAL	$792,944	$15,858,880
Double circuit 500 kV, lattice design		
Construction for 50/50 terrain[2]	$1,057,460	$21,149,200
Administrative and corporate overheads	$359,530	$7,190,600
Operations and maintenance	$3,400	$68,000
Losses, based on 1000mW average load, 60 percent LF	$16,823	$336,460
TOTAL	$1,437,213	$28,744,260

[1] Cost analysis is done on the entire 20-mile route (17 miles of route is on public land).
[2] Does not include land costs or environmental costs. Cost information for this analysis was provided at BLM request by Randall W. Melton, TLM Team Lead, Department of Energy, Bonneville Power Administration, Vancouver, Washington, in letter dated May 6, 1997.

Appendix M
Wildland Fire Appropriate Management Response

Use of Appropriate Management Response (AMR) on all wildland fire allows agency administrators the ability to choose from a full spectrum of fire suppression actions. Although all wildland fires must have an appropriate action taken to suppress them, not all wildfires need to be suppressed with the same level of intensity. Appropriate suppression actions, whether aggressive, high intensity or low intensity actions, will be based on preplanned analysis and executed to minimize suppression costs plus resource losses, consistent with land management objectives, including the threat to life and property.

Preplanned analysis criteria has been identified through the Phase One Fire Management Planning Process (see glossary) in which an interdisciplinary team of resource, fire and line management representatives classified public land into the two different management categories listed as follows:

Category A

Those lands where wildland fire should be excluded, using only prescribed fire to achieve the desired resource conditions or management of the area. The AMR for these lands would be designated as full suppression. In multiple fire situations, with fires occurring within both land categories, suppression priorities would be given to those fires burning within this classification of land. When multiple fires occur within Category A, suppression priority would be based on the threat or potential threat to public safety, structures, private property, and improvements.

Criteria used to determine Category A land include:

- Protecting public safety;
- Protecting rural/urban interface;
- Threat to private land;
- Protecting capital improvements;
- Protecting administrative/recreational sites;
- Maintaining or enhancing forage;
- Minimizing loss of shrub cover;
- Mininnizing increase in annual vegetation types;
- Limiting or reducing Medusahead, cheatgrass, and other noxious species;
- Providing diverse perennial species;
- Protecting habitat for Special Status plant species;
- Protecting Federal and State lands identified under fire protection agreements.

Category B

Those lands where wildland fire could/should be used in addition to prescribed fire to meet desired resource conditions or management. Under this category of land the AMR could vary based on predetermined fire and resource criteria (see attached fire and resource criteria) for land in and adjacent to the fires location. In multiple fire situations, Category A land would, with the exception of threat to life, receive higher priority for suppression actions than would Category B land.

While all wildland fires would receive a suppression response, that response would not always be full suppression. Theoretically, less than full suppression responses would occur only during spring early or late summer and fall months, dependant on weather conditions, or in multiple fire situations when suppression forces are not adequate to respond to all going fires. With multiple fires burning, suppression actions would occur in order of priority, with lower priority fires receiving suppression action as forces become available. All other fires receiving less than full suppression actions must meet the following fire criteria thresholds:

- Fire located within Category B land;
- Live fuel moisture in big sagebrush at 120 percent or more with 10-hour fuel stick readings of 5 percent or above or live fuels of 95 percent or above and 10-hour fuel stick reading of 8 percent or above;
- Predicted, maximum sustained wind speed of 10 mph (obtained from fire weather forecast);
- Observed and predicted fire behavior will continue to meet resource management objectives;
- No threat to public safety;
- Not a threat to private, State or other Federal land (unless those lands are under a signed mutual agreement with the landowner or agency for less than full suppression actions);
- Fires ignition is not suspected to be arson;
- Actions are in accordance with the Northwest Geographic Area Preparedness Level 3. (This level is based on the number of fire suppression resources that are committed to ongoing fire suppression activities within the northwest area, as more resources are committed the level raises.)

If any of these criteria are exceeded the AMR becomes that of full suppression, with the only exception to this occurring in a multiple fire situation where suppression actions are based on priority.

Within Category B, land resource considerations would be addressed and updated annually to reflect appropriate changes in the values to be protected. Resource criteria has been identified as to those criteria which may lead to full suppression actions and those criteria which may lead to less than full suppression actions, those criteria include but are not limited to the following.

Resource criteria which may lead to full suppression action include but are not limited to:

- burning vegetation resources with commodity values;
- burning within the perimeter of an area burned within the last 10 years;
- burning within the perimeter of a fire rehabilitation area;
- burning within given vegetation types/habitat (key winter range, big sagebrush/bitter brush, annual grasslands, shrub/annual grassland, rabbit brush/grassland, forested land, and salt desert shrub); and
- burning more than one-third of a subwatershed in a 3-year period.

Resource criteria which may lead to less than full suppression actions include but are not limited to:

- burning within riparian areas;
- burning within designated ACEC/RNA areas (allow to monitor natural processes);
- burning within a WSA;
- burning within given vegetation types (juniper, aspen);
- burning at 5,000 feet elevation or above (vegetation communities capable of natural rehabilitation); or
- burning within an area that has a prescribed fire plan in place.

The authorized officer (district manager or designated representative) has the authority to modify fire and resource criteria for either category of land based on site-specific resource management objectives identified through the adaptive management process.

Appendix N

Donner und Blitzen National Wild and Scenic River Plan Revision

Introduction

The Donner und Blitzen National Wild and Scenic River (NWSR) Management Plan was completed in May 1993. In May 1997, Judge Haggerty of the U.S. District Court enjoined the BLM from authorizing cattle grazing, constructing parking lots, improving roads or constructing water diversions in the NWSR corridor until a revised river plan and proposed actions are analyzed in an EIS. The judge's opinion stated in part "This does not mean, however, that cattle grazing must be excluded from the river area. Rather, cattle grazing may continue, but only in accordance within the strictures of the WSR Act to protect and enhance." The BLM, therefore, decided to incorporate the river plan revision into this Draft SEORMP/EIS to address the following:

- grazing within the river corridor,
- diversion of water for the purpose of irrigating the meadows at Riddle Brothers Ranch,
- construction or improvement of a parking area to facilitate management of the Riddle Brothers Ranch, and
- construction or improvement of roads within the river corridor.

The remainder of the river plan will remain unchanged unless otherwise amended by the SEORMP/EIS.

Description and Current Management

The Donner und Blitzen NWSR is 74.8 miles long and flows along the south and west slope of Steens Mountain. The corridor encompasses 22,625 acres (Map WSR-2). In 1902, David Griffiths, in his report on forage conditions of the Great Basin for the U.S. Department of Agriculture, found "the most closely pastured region visited was Steins (Steens) Mountains." Mr. Griffiths, riding horseback from Wildhorse Canyon through Ankle Creek Basin and along the Donner und Blitzen, found no good feed, except in very steep ravines. His description of the forage for the area from Ankle Basin to the vicinity of present day Blitzen Crossing was "there was practically no more feed than on the floor of a corral." This area would necessarily include at least some of the area that is presently designated as a NWSR. At the time of his survey, Griffiths estimated 182,500 sheep summering on Steens Mountain.

Today, of the 63 miles of river that are on public land, cattle have access to approximately 16.2 miles. Consequently, 46.8 miles or 74 percent of the designated river is not being grazed by cattle.

The River Management Plan identifies scenery, geology, recreation, fish, wildlife, vegetation, and historic as the ORVs.

Desirable woody species and herbaceous riparian vegetation composition are increasing, and streambanks are becoming more stable. Rangeland monitoring information indicates that riparian condition is in good or excellent condition or exhibiting a positive trend on 61 miles and is static and in fair condition on 2 miles. This 2-mile portion is showing some of the community attributes which indicate improved riparian conditions; however, data is currently too incomplete to make an accurate assessment.

There are 18 Special Status animal species that may be found in the area including inland redband trout, Malheur mottled sculpin, peregrine falcon, northern bald eagle, ferruginous hawk, Swainson's hawk, northern goshawk, white-faced ibis, bufflehead, greater sandhill crane, western sage grouse, yellow-billed cuckoo, Lewis' woodpecker, bobolink, western bluebird, Pacific western big-eared bat, Preble's shrew, and spotted frog. Some of these species are rarely observed in the area or would not be affected by the alternatives. Special Status species that could be affected include inland redband trout, Malheur mottled sculpin, northern goshawk, ferruginous hawk, Swainson's hawk, western sage grouse, yellow-billed cuckoo, bobolink, Lewis' woodpecker, western bluebird, Preble's shrew, and spotted frog.

There are 20 Special Status plant species that are known to be in the river corridor. Those species include Cusick's giant hyssop, lance-leaved grapefern, gray moonwort, pinnate grapefern, moonwort, Back's sedge, new sedge, Steens Mountain paintbrush, Hayden's cymopterus, moss gentian, slender gentian, wedgeleaf saxifrage, Sierra onion, Sierra spring beauty, Cusick's draba, least rush, nodding melic, Davidson's penstemon, Drummond willow, and weak-stemmed stonecrop. All of the Special Status plant species except Back's sedge are located in areas where livestock grazing is not allowed. Back's sedge is an upland species not found within the riparian zone.

Although the river corridor is largely primitive, five areas are either readily accessible by road or have significant developments, all of which were in existence at the time the river was designated.

The Blitzen Crossing and Newton Cabin areas are road crossings receiving a considerable amount of motorized vehicle traffic. The Page Springs and Jackman Park areas are heavily used fee campgrounds with picnic tables, outhouses, potable water, and campfire rings. The Riddle Brothers Ranch is a historic ranch with a ranch house, barn, and corrals. There is also a newer home and a small cabin on the property. Access to the ranch is by way of a dirt road of which 1.4 miles is within the NWSR corridor. An undeveloped 30 by 50-foot parking area at the ranch is for public use. The road is gated where it enters the river corridor and public vehicular access is regulated at this point. Evidence of a water diversion includes built-up banks on the river as well as ditch work and a holding pond. With the exception of the water diversion, the BLM performs normal maintenance on these existing facilities in order to keep them functional and safe for public use. Refer to Chapter 2, "Wild and Scenic Rivers" for a more detailed description of the existing environment.

Proposed Management

This appendix deals primarily with cattle grazing management within the river corridor. The proposed management actions related to diverting water and irrigating the meadows, changing the classification of the river corridor, public access to Riddle Brothers Ranch, and improving the portion of the road within the corridor leading to the Riddle Brothers Ranch are incorporated into the main body of the Draft SEORMP/EIS. Impacts of the proposed management actions on the ORVs and on the other affected programs, except WSAs, are discussed in Chapter 4 of this plan. Impacts to WSAs are described in Appendix T Catlow Conservation Agreement.

The three grazing allotments that include portions of the Donner und Blitzen NWSR are the South Steens (No. 6002), Fish Creek/Big Indian (No. 6003), and Frazier Field (No. 6006). The portion of the NWSR within the Frazier Field Allotment, except for a small percentage of the upland within the corridor, is excluded from livestock grazing. The upland portion of the river corridor that is accessible to livestock would be managed under the same upland vegetation management objectives identified in the Draft SEORMP/EIS. Meeting these objectives will protect and enhance the ORVs. For these reasons, the rest of this appendix will focus on proposed management for the pastures within the South Steens and Fish Creek/

Big Indian Allotments that have grazing access by cattle within the riparian communities of the river corridor.

Although the management proposals and associated impact analysis deals directly with the pastures that include portions of the NWSR corridor, the interrelationship of these pastures with the other pastures in the allotments cannot be ignored. The ability to meet resource objectives on public and private lands, can only be accomplished through cooperative management of entire watersheds across ownership boundaries.

Adaptive rotational grazing management would be employed on these allotments under Alternatives A, B, C, and D. Grazing management is designed to meet the physiological requirements of key plant species. Adaptive management provides the capability to change quickly to respond to monitoring data with consideration given to past seasons' monitoring results as well as preseason monitoring and current climatic conditions such as drought and availability of water. This may result in stocking level changes, pasture rotation changes, timing of grazing changes, additional rest or use, or other modifications needed to attain management objectives.

All riparian sites must provide adequate cover and height of vegetation on the banks and overflow zones to promote natural stream functions (sediment filtering, bank building, flood energy dissipation, aquifer recharge, and water storage) USDI BLM (TR-1737-14, 1997).

All seasons of use, duration of use, and amount of rest outlined for all alternatives are provided by the interdisciplinary team as a reasonable estimate of differences for comparison between alternatives. Actual management will be adaptive, driven by ecological change and hydrologic function. Failure to meet short-term or long-term allotment objectives, as determined by rangeland monitoring, would result in a more restrictive grazing strategy the following year such as shortened season of use, additional rest, restrictive trailing.

The proposed management for all alternatives employs the following principles and practices to ensure riparian protection and enhancement (TR 1737-14, 1997, Page 14).

1) Limit grazing intensity, frequency, and season of use, thereby providing sufficient rest to encourage plant vigor, regrowth, and energy storage and to minimize compaction of soils.

2) Control the timing of grazing to prevent damage (bank shearing) to streambanks when they are most vulnerable to trampling.

3) Ensure sufficient vegetation during periods of high flow to protect streambanks, dissipate energy, and trap sediments.[1]

South Steens Allotment

The Blitzen and Steens Pastures are the two pastures within the South Steens Allotment that include portions of the NWSR.

Most of the uplands within the river corridor currently are mountain sagebrush communities with Idaho fescue and associated grasses and forbs in the understory, with young juniper under the shrubs or a juniper overstory. These communities are losing species of forbs, and depending on aspect, elevation, and soils, many of the mountain sagebrush plants are stressed, dead, or dying.

Desired mountain sagebrush communities would consist of varied age classes of mountain sagebrush with an increased diversity of forbs and grasses. Approximately 400 acres of this community type have been prescribed burned over the past 2 years to reestablish a healthy composition of native forbs, grasses, and shrubs.

The current condition of low sagebrush communities is acceptable for the most part, with change desired where western juniper has increased on some sites reducing shrub and forb diversity. The low sagebrush communities have similar species as the mountain sagebrush communities with a diverse mix of shrubs, grasses, and forbs with less juniper in the overstory.

Juniper communities on lithic soils and ledges have low sagebrush and associated grasses, forbs, and shrubs. Typically, these are diverse communities having varied age classes of plants and structural diversity and are, therefore, currently meeting the desired future condition.

Aspen communities have a sparse understory of grasses and forbs with limited aspen regeneration, lacking structural and age class diversity. Many stands are decadent and are being replaced with western juniper as the dominant overstory species. The desired aspen communities would be a mixture of age classes of aspen with understory regeneration and a diverse understory of grasses, forbs, and shrubs. There would be much less western juniper associated with this community.

Riparian communities would have more vegetation variation and are more adequately described for each pasture.

Steens Pasture

There are 91,773 acres of public land and 8,873 acres of private land within the pasture. The upland vegetation that lies within the river corridor and is accessible to cattle will be managed to meet the rangeland vegetation objectives identified in the RMP/EIS. Access to the riparian vegetation and the river itself is restricted to a small portion (approximately 50 to 100 feet) of the corridor north of Blitzen Crossing.

The riparian community in this area currently has a diverse mix of alder and willow species of varied age classes and heights. The herbaceous community is a mix of sedges, rushes, forbs, and grasses with the riparian condition considered good and improving. The current riparian community is a desirable plant community; however, some increase in deciduous woody species and an increase in sedge and rush species, with a lesser amount of some grass species, is preferred and expected in the desired future community.

Guidelines specific to each alternative are as follows:

Alternative A—Access to the riparian community would be allowed during early season[2] grazing on Steens Pasture. During late season[3] grazing, BLM would manage for a median stubble height of 4 inches of the herbaceous community within the annual high water flood zone and greenline at the end of the grazing season. On or before this stubble height is reached during late season grazing, the riparian access would be closed. Refer to Appendix R for additional information on vegetation responses to various seasons of use.

Alternative B—Early season use would be the same as Alternative A. During late season grazing, utilization limits of 45 percent of annual growth on key herbaceous species and 20 percent of annual growth on deciduous woody species would be employed within the riparian zone.

Alternative C—Access to the riparian zone would only be during early season grazing.

Alternative D—The same as Alternative C.

Alternative E—No livestock grazing within the riparian zone of the NWSR.

Blitzen Pasture

There are 12,001 acres of public land and 8,401 acres of private land within the Blitzen Pasture. Cattle and wild horses have access to approximately 11 miles of the NWSR of which 7.3 miles are public land and 3.7 miles are private land. Grazing animals also have access to approximately 31 miles of tributary streams of the NWSR system of which 14.3 miles are public and 16.7 miles are private. This pasture is centrally located within the allotment (see Map WSR-2); therefore, cattle must be trailed through it to access pastures on either side or when moving off the mountain late in the season.

Within the river corridor, the riparian communities in this pasture are varied. On the northern 4 miles, from the allotment boundary to Mud Creek, riparian communities have an overstory of alder, dogwood, chokecherry, and willow with a diverse understory of sedges, rushes, grasses, and forbs. These communities have species and structural diversity with varied age classes of plants. The desired future community would have some increase in sedge and rush species with a decrease in some grass species; however, it would appear similar to current conditions.

Within the remaining 7 miles of riparian communities in the river corridor, there are several species of willow in the overstory which is lacking on some sites. Willows are mature with regeneration of young and seedling plants becoming established on most sites. There is a mix of sedges, rushes, grasses, and forbs dominating the understory. The desired future communities on most of these sites would have an increase of willows with varied age classes and structure; sedges and rushes would increase with lesser amounts of some species of grasses and forbs expected. Rangeland monitoring indicates communities are currently moving in the direction of the desired future communities.

Guidelines specific to each alternative are as follows:

Alternative A—(1) Pasture would be rested on average 1 out of 4 years; (2) duration of use would occur within an early season; and (3) trailing would occur each year (some overnight use would occur during trailing with cattle brought into the pasture and removed the next day).

Alternative B—(1) Utilization limits of 45 percent of annual growth on key herbaceous species and 20 percent of annual growth on deciduous woody species within the riparian zone would be employed; (2) pasture would be rested on average 1 out of 3 years: (3) duration of use would occur within an early season; and (4) trailing would be the same as Alternative A.

Alternative C—The pasture would be divided by attaching an existing fence on private land to 1.5 miles of new fence, of which, 1-mile would be on private land and 0.5-mile on public land. All of the additional fence would be outside the river corridor. The Blitzen Pasture would have three consecutive years of rest beginning in 1997: (1) each pasture would be rested 2 out of 4 years; (2) duration of use would occur during early season; (3) trailing would be the same as Alternatives A and B with both pastures open to trailing use; and (4) removal of livestock would be initiated by observing during rangeland monitoring those factors which indicate the arrival of late season grazing[3] in conjunction with a median stubble height of the most palatable species within the greenline and annual flooding zone of approximately 3 inches.

Alternative D—The same as Alternative C, except the 1.5 miles of fence would not be constructed. The public land portions of the pasture would be rested for five consecutive years, starting in 1997 to accelerate changes in deciduous woody composition on some riparian sites.

Alternative E—No grazing would be authorized on public land within the Blitzen Pasture.

Fish Creek/Big Indian Allotment

The Little Blitzen Meadows and Newton Cabin Pastures are the two pastures within this allotment that have riparian communities within the NWSR corridor accessible to livestock.

The upland communities, both current and desired future community, are similar to what was described for South Steens Allotment. Refer to that section for upland information. As with South Steens Allotment, the riparian communities have more variation and will be described for each pasture.

Little Blitzen Meadows

This pasture is 554 acres, all of which are public land. There are approximately 2.4 miles of riparian communities accessible to cattle within the designated river corridor.

For the most part, the dominant vegetation in these riparian communities are alder and willow, with some black cottonwood. These trees form mostly a mature overstory with some young and seedling plants developing. The herbaceous vegetation is a diverse mix of grasses, forbs, sedges, and rushes. The desired future community would have a similar composition in the overstory as it exists today with an increase in age classes and some increase in deciduous woody cover. Regeneration of black cottonwood would be expected on some sites. Sedge and rush cover would increase and a decrease in the cover of some species of grasses is expected within the herbaceous riparian community.

Previously cultivated meadow areas have a mix of sedges, rushes, forbs, and grasses (native and introduced) with species of willows along the ditches and in low sites. The DFRC includes a decrease in the introduced grass species and an increase of sedges, rushes, and willows along the ditch system.

Guidelines for each alternative are listed below.

Alternative A—(1) The pasture would be grazed yearly during an early season[2] of use; (2) trailing, including overnight stays, would occur for about 3 days each fall as cattle are moved to private winter range; and (3) occasional late season grazing on the previously cultivated meadow areas may be prescribed using temporary electric fencing to prevent access to the Little Blitzen River riparian zone with water access provided at a designated water gap.

Alternative B—(1) Utilization limits of 45 percent of annual growth on key herbaceous species and 20 percent of annual growth on deciduous woody species within the riparian zone would be employed; (2) pasture would be rested every other year; (3) early season grazing would be employed; and (4) trailing, including overnight stays, would occur for about 3 days each fall as cattle are moved to private winter range.

Alternative C—The pasture would be rested for three consecutive years beginning in 1997: (1) Pasture would be grazed 2 out of 4 years during an early season of use; (2) removal of livestock would be initiated by observing during rangeland monitoring those factors which indicate the arrival of late season[3] in conjunction with a median stubble height of the most palatable species within the greenline and annual flooding zone of approximately 3 inches; (3) trailing, including overnight stays, would occur for about 3 days each fall as cattle are moved to private winter range; and (4) occasional late season grazing on the previously cultivated meadows may be prescribed using temporary electric fencing to prevent access to the Little Blitzen River riparian zone with water access provided at a designated water gap.

Alternative D—The same as Alternative C.

Alternative E—No grazing on the Blitzen Meadows Pasture.

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[1] Current management (Alternative B) employs utilization limits of an average of 45 percent of annual growth of key herbaceous species and 20 percent of annual growth of deciduous woody species within the riparian zones to accomplish this objective. In Alternatives A, C, and D the herbaceous community would be measured to provide a median stubble height of 4 inches within the annual high water flood zone and greenline at the end of the growing season. The 4 inches would be the initial measurement aimed at protecting streambanks, dissipating energy, and trapping sediments during periods of high water flow within the annual high water flood zone and greenline. Actual median stubble height required to achieve this objective will be determined by rangeland monitoring (Hall and Bryant 1995; Clary and Webster 1989).

[2] Early season grazing is a period of use when upland grasses remain palatable and have not yet reached maturity. Daily high temperatures are cool enough that animals will usually maintain upland distribution. The upland water sources remain viable. The grasses on alluvial flats above the greenline in the riparian zone are not mature and remain palatable. This portion of the riparian zone is receiving most of the grazing use and not the greenline as animals trail into water. Grazing would occur at a time when soils are dry enough to prevent unacceptable levels of bank shearing and compaction. Animal dietary preference has not turned to deciduous woody species. Regrowth of herbaceous species within the greenline and annual flood zone will occur. At the elevations being considered, this season may occur between April 1 to July 30.

[3] Late season grazing is when upland grasses have reached maturity and have reduced palatability. Daily high temperatures are often hot enough to encourage animals to spend more time grazing and loafing in the riparian zone. Upland waters may or may not remain viable. The grasses on alluvial flats above the greenline in the riparian zone have dried and may be mature and have reduced palatability. Grazing use will increase on the greenline because other herbaceous vegetation has cured. Grazing preference for deciduous woody species often increases during this period. At the elevations being considered, this season may occur between July 1 to October 1.

Newton Cabin Pasture

This pasture consists of 7,716 acres of public land. Cattle have access to approximately 6.5 miles of the designated river.

Current riparian communities are similar to the description provided in the Little Blitzen Meadows. However, some riparian sites have western juniper which is influencing the deciduous woody species and black cottonwood is not associated on these riparian communities.

The desired future riparian communities would be as described for Little Blitzen Meadows; however, the western juniper would have to be cut to allow the deciduous woody community species to achieve potential.

Specific guidelines for each alternative are as follows:

Alternative A—The pasture would be grazed every year during an early season of use.[2]

Alternative B—(1) Utilization limits of 45 percent of annual growth on key herbaceous species and 20 percent of annual growth on deciduous woody species within the riparian zone would be employed; and (2) the pasture would be grazed every year during an early season of use.[2]

Alternative C—The Newton Cabin Pasture would be rested for three consecutive years beginning in 1997: (1) The pasture would be grazed 2 out of 4 years during an early season of use; and (2) removal of livestock would be initiated by observing during rangeland monitoring those factors which indicate the arrival of late season[2] in conjunction with a median stubble height of the most palatable species within the greenline and annual flooding zone of approximately 3 inches.

Alternative D—The same as Alternative C.

Alternative E—No grazing within the riparian communities in the WSR corridor.

Grazing Impacts Analysis

Environmental impacts on the ORVs from grazing proposals for each pasture are identified by alternative below. These impacts are analyzed as to their effects on meeting the objectives of the River Management Plan and the objectives and DRFC in this Draft SEORMP/EIS.

The basic difference between the alternatives is the amount of time needed to fully meet the resource objectives while sustaining a certain degree of livestock use. Additionally, management of adjacent intermingled and private land can influence the degree of success in meeting objectives on public land.

South Steens Allotment

Steens Pasture

Alternative A

Impacts: Livestock grazing management should result in improvements in fish habitat. Improved riparian vegetation and bank stability are expected, resulting in increased root wad cover, increased overhanging vegetation cover, increased emergent vegetation cover, increased food production, cooler temperatures, increased undercut banks, decreased sedimentation of spawning gravels, and increased pool habitat availability. Improvements are expected but at a slower and possibly delayed rate relative to the other alternatives.

The ORVs of scenery, recreation, vegetation, and wildlife would be enhanced as vegetation within the corridor responds to management. The increased size and density of willows along the river will be especially important in providing wildlife and fishery habitat needs as well as improving the visual quality of the corridor. There would be no adverse impacts to Special Status plants. Years with late season grazing could reduce the following year's nesting cover for ground nesters like sage grouse in areas where spring nesting activity occurs and where there is a reduction of residual tall grass cover beneath the sagebrush. This would make ground-nesting birds more susceptible to predation.

Conclusion: The objective would be met. Improvements are expected at a slower rate than Alternatives C and D. No cumulative adverse impacts are expected.

Alternative B

Impacts: The same as Alternative A.

Conclusion: The objective would be met. Impacts are the same as Alternative A.

Alternatives C and D

Impacts: The riparian vegetation within the water gap would improve and meet objectives more quickly since there would be no late season grazing. Other impacts are the same as Alternative A.

Conclusion: The objective would be met more quickly than Alternatives A and B since there would be no late season grazing. No cumulative adverse impacts are expected.

Alternative E

Impacts: There would be no use in the water gap in this alternative so trend would be accelerated over Alternatives A, B, C and D.

Conclusion: The objective would be met more quickly than the other alternatives since there would be no grazing in the water gap. Cumulative impacts would be possible impacts to the South Fork of the Donner und Blitzen River WSA as an additional water source is developed nearby to replace the fenced off water gap.

Blitzen Pasture

Alternative A

Impacts: The periodic rest and early season of use would allow continued improvement in riparian and upland vegetation. Fish and wildlife habitat would be enhanced as the vegetation responds favorably to management. Recreation opportunities would also improve as the wildlife, fishery, and vegetation ORVs are protected and enhanced. The pastures that are used after the Blitzen Pasture do not physically include portions of the river corridor but do contain many of the tributaries to the river which directly influence the ORVs in terms of fish habitat and water quality.

The impacts from livestock to the spotted frog are unknown. Any significant impacts to threatened or endangered species would result in management changes to remedy these affects. Wildlife cover from herbaceous vegetation within the riparian zone may be inadequate for approximately 3 weeks until adequate regrowth is attained.

Conclusions: The objective would be met as the riparian and upland vegetation move toward DRFC. Short-term impacts to wildlife cover may occur along the riparian zone. Cumulative impacts to the private land and other public land in the area are beneficial in terms of maintaining a cooperative management strategy with the private landowner and retaining significant flexibility in managing the entire allotment.

Alternative B

Impacts: Imposing the 45 percent utilization limits on herbaceous riparian vegetation and 20 percent on woody species would cause riparian area improvement similar to Alternative A. The fishery, scenic, recreation, and wildlife ORVs would improve as well, as the riparian area vegetation conditions responded to the intensified management. Early season use would also allow regrowth of the upland vegetation on most years which would enhance the vegetation and scenic ORVs. The increased frequency of periodic rest would promote healthy plant vigor for herbaceous plant species which are grazed. Wildlife utilizing uplands would have adequate nesting and escape cover. Implementation of the 45 percent utilization level would improve habitat (over Alternative A) of ground-dwelling species like the spotted frog if more residual cover is left along the riparian zone.

Conclusion: The objective would be met through early season grazing and total rest periods one out of three years. Imposing the utilization criteria would not significantly alter use rates from Alternatives A, C, and D, if the measurement is made on current year's growth. The quicker return interval of total rest (over Alternative A) would accelerate meeting the DRFC of the upland and riparian vegetation. Cumulative impacts are the same as Alternative A.

Alternative C

Impacts: Construction of the 1.5 miles of fence outside the river corridor would increase the sequence of yearlong rest for each new pasture. The additional rest and accompanying early season use period would enhance all ORVs. Riparian and upland wildlife cover would be enhanced compared to Alternatives A and B since half of the pasture receives total rest every year. However, the more concentrated use in the grazed pasture may slightly increase disturbance to ground-nesting wildlife species. Wildlife cover from herbaceous vegetation within the riparian zone of the grazed pasture may be inadequate for approximately 3 weeks prior to adequate regrowth. The fence would create a slight entanglement hazard to mule deer and elk.

Conclusion: The objective would meet the DRFC of the riparian and upland vegetation possibly be quicker than Alternatives A and B since each new pasture would be rested from grazing 1 out of 2 years. Increasing the concentration of livestock in the grazed portion of the pasture may slightly increase disturbance to ground-nesting birds, however, the total rest of the remainder of the pasture would eliminate this type of disturbance. Cumulative impacts are expected to be similar to Alternatives A and B.

Alternative D

Impacts: The proposed 5-year rest period and the frequency of periodic rest with an early season of use would result in voluntary nonuse of the intermixed private land within this pasture which would not be economically feasible for the landowner. Within this pasture, 60 percent of the uplands and 34 percent (or 3.7 miles) of the Donner und Blitzen NWSR are privately owned. Additionally, 80 percent (10.2 miles) of the major tributaries to the river within this pasture are privately owned. To enable grazing use of this private land, which was not in conjunction with public land, approximately 2.5 miles of fence within the river corridor and approximately 12 miles of fence adjacent to the South Fork of the Donner und Blitzen WSA would be required. The coordinated management which currently exists and would exist under Alternatives A, B, and C would be lost. The resulting segmented management of the watershed would result in the least opportunity and the longest period of time to accomplish management objectives.

Any adverse impacts to public land resource values from private land management may reduce the availability of use for livestock on public land.

Conclusion: The objective would be met dependant upon the subsequent management of the private land in the area. The rate of meeting the DRFC of the upland and riparian vegetation would be similar to Alternative C. Meeting the fishery ORV, however, may be jeopardized if grazing restrictions on public land cause increased use on private land. Adverse cumulative impacts to fish habitat and water quality may result.

Alternative E

Impacts: Removing livestock grazing from the Donner und Blitzen NWSR corridor in and by itself could provide the most rapid achievement of the objectives. One detrimental effect under this scenario would be the reduction of green grass for elk as unused plants became more unpalatable over time. The additional vegetative material would increase cover for ground-dwelling species like sage grouse and rodents. The likely increase in the rodent population would provide additional prey base for raptors and other predators. The probable scenario, however, would be the fencing off and independent use of the private land areas by the landowner. Impacts to this are the same as described in Alternative D.

Conclusion: The same conclusion as Alternative D with a higher probability that private land grazing would cause adverse impacts to the fishery and water quality resources of the river.

Summary of Impacts

Alternatives A, B, and C would meet ORVs and other resource objectives within the South Steens Allotment. The main differences between these alternatives is the time required to fully meet the objectives. Alternatives D and E have potential adverse cumulative impacts related to the probable loss of cooperative management between the BLM and private landowner.

Fish Creek-Big Indian Allotment

Little Blitzen Meadows Pasture

Alternative A

Impacts: The early season of use would allow continued recovery of the riparian and upland vegetation. The fish and wildlife ORVs would respond accordingly. The scenic, recreation, and historic ORVs would be enhanced as well. Ground-dwelling wildlife, like the spotted frog, heavily dependant on the riparian zone, may be directly impacted by occasional trampling from livestock.

Conclusion: The objective would be met through the prescription of early season grazing. Years of late season grazing would not impact the riparian area along the river due to the placement of electric fencing. Trampling impacts to ground-dwelling species like the spotted frog, though possible, are not predicted to occur. There are no anticipated adverse cumulative impacts.

Alternative B

Impacts: This alternative provides for an early season of use and rests the pasture every other year. The alternate year's rest would accelerate the recovery of the riparian areas and shorten the time needed to fully meet the objectives for the ORVs. The utilization criteria added to this alternative would not significantly alter the time frames for meeting the objectives.

Conclusion: The objective would be met sooner than Alternative A due to the addition of alternate year's rest from grazing. There are no known adverse cumulative impacts.

Alternatives C and D

Impacts: Impacts are similar to Alternative B.

Conclusion: The objective would be met by resting the pasture 2 years out of 4 and continuing using the pasture during an early season of use. Impacts are similar to Alternative B and there are no known cumulative impacts.

Alternative E

Impacts: No grazing would allow a natural rate of recovery of the vegetation ORV in this portion of the corridor. The wildlife and fishery ORVs would also be enhanced slightly over Alternatives B, C, and D as ground litter for nesting increases slightly and any risk of negative impacts from livestock grazing are eliminated. The prey base for raptors may improve if rodent populations increase from the additional vegetal cover across the meadows.

Conclusion: The objective would be met. The DRFC for the upland and riparian vegetation would be met quicker than the other alternatives since any impact from livestock grazing would be eliminated. Since total elimination of grazing is not needed to meet resource objectives, implementation of this alternative would be a negative cumulative impact to the rangeland/grazing objective of sustaining livestock forage production while meeting other resource objectives.

Newton Cabin Pasture

Alternative A

Impacts: All the ORVs, including the Special Status plant species, would be protected and enhanced under this alternative but enhancement would occur at a slower rate than Alternatives C, D, and E.

The early season would provide adequate regrowth of riparian and upland vegetation. Ground nesting cover in the uplands would be reduced over Alternatives C, D, and E since cattle would have access to the pasture every year. The riparian area may have a grazed appearance every year for about 2–3 weeks which would detract from the scenic ORV. Herbaceous wildlife cover could be impacted during this same period of time.

Conclusion: The objective would be met by utilizing an early use grazing schedule. Meeting DRFC for the riparian and upland vegetation would take longer than Alternatives C, D, and E. No adverse cumulative affects are expected to occur.

Alternative B

The same as Alternative A.

Conclusion: The same as Alternative A.

Alternatives C and D

Impacts: Providing rest 2 years out of 4 will accelerate the enhancement of the ORVs toward meeting the objectives. The combination of regrowth and rest years will provide abundant nesting and escape cover for wildlife. Scenic impacts would be short term and minimal as the natural character of the area would recover more quickly. The pasture would be totally absent of livestock impacts during rest years.

Conclusion: The objective would be met sooner than Alternatives A and B by resting the pasture two years out of four and still utilizing early season of use. Wildlife cover requirements would be totally met during rest years and only be inadequate for approximately 3 weeks during use years. No adverse cumulative impacts are expected.

Alternative E

Impacts: Impacts from cattle would be absent under this alternative. Long-term nonuse could reduce the palatability and nutrition of grasses for elk. Raptors would benefit if rodent populations increase from the additional vegetative ground litter. ORVs resource objectives may be met quicker than for all other alternatives.

Conclusion: The objective would be met. Meeting DRFC and ORV objectives would occur quicker under the no-grazing scenario. Any livestock-related impacts would be eliminated. An adverse cumulative effect to the rangeland/grazing objective would occur as livestock forage availability would be reduced even though all resource objectives can be met while providing for livestock use consistent with meeting the other resource objectives.

Summary of Impacts

Management of the Little Blitzen Meadows and Newton Cabin Pastures would meet the objective under all alternatives, with differences being the length of time before the objective is fully met. Alternatives D and E have cumulative impacts by reducing available livestock forage within the pastures.

Appendix O
Best Management Practices

BMPs are those land and resource management techniques designed to maximize beneficial results and minimize negative impacts of management actions. Interdisciplinary site-specific analysis is necessary to determine which management practices would be necessary to meet specific goals. BMPs described in this appendix are designed to assist in achieving the objectives for maintaining or improving water quality, soil productivity, and the protection of watershed resources. These guidelines will apply, where appropriate, to all use authorizations, including BLM-initiated projects. Modifications may be necessary on a site-specific basis to minimize the potential for negative impacts. Each of the following BMP guidelines is a part of the coordinated development of this plan and may be updated as new information becomes available. Applicants can suggest alternate conditions that could accomplish the same result.

BMPs are selected and implemented as necessary, based on site-specific conditions, to meet water and soil objectives for specific management actions. This document does not provide an exhaustive list of BMPs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMPs need to be monitored to determine whether the practices are achieving water and soil objectives and accomplishing the desired goals. Adjustments will be made as necessary to ensure objectives are met and as needed to conform with changes in BLM policy, direction, or new information.

These BMPs are a compilation of existing policies and guidelines and commonly employed practices to minimize water quality degradation from nonpoint sources and the loss of soil productivity. BMPs are considered one of the primary mechanisms to achieve Oregon water quality standards. Nonpoint sources of pollution result from natural causes, human actions, and the interactions between natural events and conditions associated with human use of the land and its resources. Nonpoint source pollution is caused by diffuse sources rather than from a discharge at a specific, single location. Such pollution results in alteration of the chemical, physical, and biological integrity of water.

BMPs are defined as methods, measures or practices selected on the basis of site-specific conditions to ensure that water quality will be maintained at its highest practicable level. BMPs include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2, Environmental Protection Agency Water Quality Standards Regulation).

BMPs are identified as part of the NEPA process, with interdisciplinary involvement. Because the control of nonpoint sources of pollution is an ongoing process, continual refinement of BMP design is necessary. This process can be described in five steps which are: (1) selection of design of a specific BMP; (2) application of the BMP; (3) monitoring; (4) evaluation; and (5) feedback. Data gathered through monitoring is evaluated and is used to identify changes needed in BMP design, application, or in the monitoring program.

Road Design and Maintenance

1) Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.

2) Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.

3) Locate roads on stable terrain such as ridgetops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.

4) Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.

5) Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.

6) Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.

7) Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.

8) Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.

9) Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.

10) If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or cease unless otherwise approved by the authorized officer.

11) Consider improving inadequately surfaced roads, that are to be left open to public traffic during wet weather, with gravel or pavement to minimize sediment production and maximize safety.

12) Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).

13) Retain adequate vegetation between roads and streams to filter runoff caused by roads.

14) Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of PFC and RMOs.

15) Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.

16) Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.

17) Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.

18) Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.

19) Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.

20) Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality and capable of handling a 100-year event for runoff and floodwaters.

21) Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.

22) Replace undersized culverts and repair or replace damaged culverts and down spouts. Provide energy dissipators at culvert outlets or drainage dips.

23) Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.

24) Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.

25) Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.

26) Remove berms from the down slope side of roads, consistent with safety considerations.

27) Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.

28) Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.

29) When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.

30) Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.

31) Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.

32) Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.

33) Maintain roads in SMAs according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.

34) When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.

35) Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

Surface-Disturbing Activities

1) Special design and reclamation measures may be required to protect scenic and natural landscape values. This may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, use of low profile permanent facilities, and painting to minimize visual contrasts. Surface-disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the proposal.

2) Above ground facilities requiring painting should be designed to blend in with the surrounding environment.

3) Disturbed areas should be contoured to blend with the natural topography. Blending is defined as reducing form, line, and color contrast associated with the surface disturbance. Disturbance in visually sensitive areas should be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color caused by the disturbance as much as possible.

4) Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within 6 months of the termination of operations unless otherwise approved in writing by the authorized officer.

5) Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.

Rights-of-way and Utility Corridors

1) Rights-of-way and utility caderas should use areas adjoining or adjacent to previously disturbed areas whenever possible, rather than traverse undisturbed communities.

2) Waterbars or dikes should be constructed on all of the rights-of-way and utility corridors, and across the full width of the disturbed area, as directed by the authorized officer.

3) Disturbed areas within road rights-of-way and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion. Vegetation cover should be reestablished to increase infiltration and provide additional protection from erosion.

4) Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms may also be employed for the removal of sediment from runoff.

Forest Management

1) Design harvest units and forest health treatments to blend with natural terrain.

2) Consider clearcutting only where it is silverculturally essential to accomplish site-specific objectives. Areas with fragile watershed conditions or high scenic values should not be clearcut.

3) When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities, such as log yarding and hauling, should be limited or cease unless otherwise approved by the authorized officer.

4) Scatter unmerchantable material (tops, limbs, etc.) in cutting units and treatment areas, consistent with fuel loading limitations.

5) Ground yarding systems are not recommended on slopes that are of 30 percent or greater.

6) Utilize designated skid trails and haul roads, where feasible, when ground yarding.

7) Locate skid trails on upper slope positions, as far as possible from surface water. Avoid skidding across drainage bottoms or creating conditions that concentrate and channelize surface flow.

8) Use directional felling, when applicable, to minimize skidding distance and locate skid trails as far as possible from sensitive areas.

9) Install waterbars and apply native seed, when available, to skid trails and landings prior to temporary seasonal closures and following harvest operations. Consider ripping or subsoiling on skid trails and abandoned haul roads to reduce compaction where soil and slope conditions permit.

10) When ground or cable yarding, logs should be fully, or at least have the lead end, suspended.

11) Locate landings away from surface water. Design landings to minimize disturbance consistent with safety and efficiency of operation.

12) Use low pressure grapple equipment, if possible, when piling slash.

13) Conduct forested land treatments when soil surfaces are either frozen, dry, or have adequate snowpack to minimize impacts to soil and water resources.

Fire Suppression

1) Minimize surface disturbances and avoid the use of heavy earth-moving equipment where possible, on all fire suppression and rehabilitation activities, including "mop-up", except where high value resources (including lives and property), are being protected.

2) Install waterbars and seed all constructed firelines with native species as appropriate.

3) Avoid dropping fire retardant that is detrimental to aquatic communities on streams, lakes, ponds and in riparian/wetland areas.

4) The location and construction of hand lines should result in minimal surface disturbance while effectively controlling the fire. Hand crews should locate lines to take full advantage of existing land features that represent natural fire barriers. Whenever possible, handlines should follow the contour of the slope to protect the soil, provide sufficient residual vegetation to capture and retain sediment, and maintain site productivity.

5) Suppression in riparian areas should be by hand crews when possible.

Prescribed Burning

1) To protect soil productivity, burning should be conducted if possible, under conditions when a low-intensity burn can accomplish stated objectives. Burn only when conditions of organic surface or duff layer have adequate moisture to minimize effects to the physical and chemical properties of the soil. When possible, maximize the retention of the organic surface or duff layer.

2) Slash should not be piled and burned within riparian/wetland areas. If riparian/wetland areas are within or adjacent to the prescribed burn unit, piles should be fire lined or scattered prior to burning.

3) When preparing the unit for burning, avoid piling concentrations of large logs and stumps; pile small material (3 to 8 inches diameter). Slash piles should be burned when soil and duff moisture are adequate to reduce potential damage to soil resources.

Livestock Grazing Management

Rangeland projects and improvements are constructed as a portion of adaptive management to reduce resource management conflicts and to achieve multiple use management objectives. Standard design elements and procedures for rangeland improvements are summarized in Appendix S. They have been standardized over time to mitigate impacts and will be adhered to in the construction and maintenance of rangeland projects within the planning area.

Effects of grazing by large herbivores are summarized in Appendix R. Grazing schedules are developed and adjusted through the adaptive management process on an allotment specific basis. This is to mitigate impacts to resource values and progress toward multiple-use management objectives and sustainability of desirable values.

Mining

1) Reclaim all disturbed surface areas promptly, preforming concurrent reclamation as necessary, and minimize the total amount of all surface disturbance.

2) All surface soil should be stripped prior to conducting operations, stockpiled, and reapplied during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the depth or thickness of stockpiles. When slopes on topsoil stockpiles exceed 5 percent, a berm or trench should be constructed below the stockpile to prevent sediment transport off site.

3) Strip and separate soil surface horizons where feasible and reapply in proper sequence during reclamation.

4) Locate soil stockpiles and waste rock disposal areas away from surface water to minimize off-site drainage effects.

5) Establish vegetation cover on soil stockpiles that are to be in place longer than 1-year.

6) Construct and rehabilitate temporary roads to minimize total surface disturbance, consistent with intended use.

7) Consider temporary measures such as silt fences, straw bales or mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.

8) Reshape to the approximate original contour all areas to be permanently reclaimed, providing for proper surface drainage.

9) Leave reclaimed surfaces in a roughened condition following soil application.

10) Complete reclamation and seeding during the fall if possible.

Wildlife Habitat Protection

Disturbances to wildlife security that jeopardize winter survival or breeding activities should be minimized to the extent practical. This can be accomplished by prescribing specific adjustments to the timing or location of disturbing activities. For most eastern Oregon species of wildlife, winter use typically begins by December and ends by early March. Local variations to these general dates are apt to occur and influence prescriptions required to protect wildlife security. The breeding season for most species begins by early March and extends through the month of June. Species such as owls are exceptions to these general breeding season dates.

Power lines should be constructed according to standards outlined in Suggested Practices for Raptor Protection on Power Lines, Raptor Research Foundation, Inc. 1981, so that hazards to large perching birds may be minimized or avoided.

Fence design should conform with BLM Manual 1737-1 in order to accommodate big game movements and minimize the risks of injuries or death due to entanglement.

Bird ramps should be installed in livestock troughs where entrapment/drowning of small animals has been identified as a problem.

Prescribed land treatments that impact the character of shrubland, juniper and forest cover should be designed to reduce some of the negative impacts associated with cover losses. Design features should incorporate temporal (timing) and spatial (location) considerations that will contribute toward reducing habitat fragmentation.

Wherever possible, juniper habitats should provide the following kinds of characteristics important to wildlife: (1) patches of thermal and hiding cover for mule deer and elk, (2) scattered mature trees suitable for nesting raptors such as ferruginous hawks, (3) maintenance of large trees (approximately 24-inch diameter measured 1-foot above ground) with cavities for various species of small mammals and birds, (4) downed trees for small animal refugia and big game cover, and (5) vegetation mosaics of approximately 50 percent juniper cover and 50 percent shrub or grassland.

Big sagebrush shrub overstories, as described in the Desired Range of Future Conditions (Chapter 3), should exhibit the following kinds of habitat characteristics: (1) shrub overstories on native range would occur on approximately 50 to 75 percent of a project or local geographic area, (2) shrub overstories on seedings would occur on approximately 25 to 50 percent of a project or local geographic area, (3) shrub overstories would be present in predominantly moderate canopy coverages (defined as approximately 5 to 15 percent canopy coverage) which allow for the support of a diverse grass and forb understory.

Snags and green tree replacements for snags in forested habitats to maintain wildlife populations at the 60 to 70 percent level.

Noxious Weed Management

1) All contractors and land-use operators moving surface-disturbing equipment in or out of weed infested areas should clean their equipment before and after use on public land.

2) Control weeds annually in areas frequently disturbed such as gravel pits, recreation sites, road sides, livestock concentration areas.

3) Consider livestock quarantine, removal, or timing limitations in weed infested areas.

4) All seed, hay, straw, mulch, or other vegetation material transported and used on public land weed-free zones for site stability, rehabilitation or project facilitation should be certified by a qualified Federal, State or county officer as free of noxious weeds and noxious weed seed. All baled feed, pelletized feed and grain transported into weed-free zones and used to feed livestock should also be certified as free of noxious weed seed.

Developed Recreation

1) Construct recreation sites and provide appropriate sanitation facilities to minimize impacts to resource values, public health and safety, and minimize user conflicts of approved activities and access within an area as appropriate.

2) Minimize impacts to resource values or to enhance a recreational setting and recreation experience. Harden site and locations subject to prolonged/repetitive concentrated recreational uses with selective placement of gravel or other porous materials and allow for dust abatement, paving and engineered road construction.

3) Use public education and/or physical barriers (e.g., rocks, posts, vegetation) to direct or prelude uses and to minimize impacts to resource values and the quality of recreation experience.

4) As appropriate, employ limitations of specific activities to avoid or correct adverse impacts to resource values, public safety issues, and/or conflicts between recreational uses.

5) Employ land use ethics programs and techniques such as "Leave No Trace" and "Tread Lightly." Use outreach efforts of such programs to lessen needs to implement more stringent regulatory measures to obtain resource protection and a quality recreation experience.

Appendix P
Mineral Development Scenarios

Introduction

This appendix describes scenarios for the reasonably foreseeable development of leasable, locatable, and saleable mineral commodities. The scenario for reasonably foreseeable development estimates the level and type of future mineral activity in the planning area and provides a basis for the analysis of cumulative effects. The scenario first describes the steps in developing a mineral deposit, with presentation of hypothetical exploration and mining operations. Current levels of activity are discussed in Chapter 3. Trends and assumptions affecting mineral activity are discussed in this appendix, followed by estimates for future mineral exploration and development.

Scope

The scenario for reasonably foreseeable development is based on known or inferred mineral resource capabilities and applies the conditions and assumptions discussed below. Changes in available geologic data or economic conditions would alter reasonably foreseeable development, and some deviation should be expected over time. The development scenario is limited to BLM-administered land.

Leasable Mineral Resources

Reasonably Foreseeable Development of Oil and Gas (Alternatives A– D)

Future trends and assumptions:

Based on the history of drilling for oil and gas and the development potential of the planning area, activity over the next 15 to 20 years is likely to be sporadic. Oil and gas activity will probably consist of the issuance of some competitive and over-the-counter leases, a few geophysical surveys, and perhaps the drilling of two or three exploratory wells.

Geophysical exploration

Geophysical exploration is conducted to determine the subsurface structure of an area and the potential for mineral resources. Three geophysical survey techniques are generally used to define subsurface characteristics through measurements of the gravitational field, magnetic field, and seismic reflections.

Gravity and magnetic field surveys—involve small, portable measuring units that are easily transported by light off-highway vehicles, such as 4-wheel drive pickup trucks and jeeps, or aircraft. Both off and on-highway travel may be necessary. Although these two survey methods can take measurements along defined lines, it is more common to have a grid of distinct measurement stations. Surface disturbance resulting from these surveys is negligible, consisting almost exclusively of soil or vegetation compaction that persists no more than a few months.

Seismic reflection surveys—are the most common of the geophysical methods, and they produce the most detailed subsurface information. Seismic surveys are conducted by sending shock waves, generated by a small explosion or by mechanically beating the ground with a thumping or vibrating platform. In the mechanical technique, four large trucks are usually used, each equipped with pads about 4 feet square. The pads are lowered to the ground, and the vibrations are electronically triggered from the recording truck. Once information is recorded, the trucks move forward a short distance and the process is repeated. Surface disturbance includes flattening of vegetation and compaction of soils.

The explosive method—requires that small charges be detonated on the surface or in a shallow drill hole. Holes for the charges are drilled using truck-mounted or portable air drills. In general, this method uses 4 to 12 holes per mile of line, and a 5 to 50-pound explosive charge is placed in each hole, covered, and detonated. The shock wave created is recorded by geophones placed in a line on the surface. In rugged terrain, a portable drill carried by helicopter can sometimes be used. The vehicles used for a drilling program may include heavy truck-mounted drill rigs, track-mounted drill rigs, water trucks, a computer recording truck, and a light pickup.

Existing roads and trails are used where possible, but off-road travel is necessary in some cases. Several trips per day are made along a seismograph line, usually resulting in a well-defined two-track trail. The surface charge method uses 1 to 5-pound charges attached to wooden laths 3 to 8 feet above the ground. Placing charges lower than 6 feet usually results in destruction of vegetation, whereas placing the charges higher, or on the surface of deep snow, results in little visible surface disturbance.

It is expected that three notices of intent, involving seismic reflection and gravity/magnetic field surveys, would be filed under Alternatives A through D during the life of this plan. The total expected surface disturbance would be approximately 1-acre.

Drilling phase:

After an application to drill is approved, the operator may begin construction in accordance with lease stipulations and conditions of approval of the drilling permit. When a site requires construction of an access road, the shortest feasible route is usually selected to reduce the haul distance and construction costs. Environmental factors or a landowner's wishes may dictate a longer route in some cases. Drilling in the planning area is expected to be done using existing roads and construction of only short (approximately 0.5-mile) roads to access drill site locations.

Based on the history of oil and gas exploration in the planning area, it is projected that two or three exploratory wildcat wells would be drilled on BLM-administered land in the planning area during the life of this plan. The estimated success rate would be no greater than 10 percent, based on the average wildcat success rate. Drilling is expected to occur in areas of moderate oil and gas potential, the highest level of potential in the planning area. There is an estimated 2 percent probability that a field will be discovered during the life of this plan, with a strong likelihood that the discovery would be natural gas because most of the occurrences in the planning area are gas.

During the first phase of drilling, the operator would move construction equipment over existing maintained roads to the point where the access road begins. Less than 0.5-mile of moderate duty access road with a gravel surface 18 or 20 feet wide is expected for construction. With ditches, cuts, and fill, the total width of surface disturbance would average 40 feet. The second part of the drilling phase is the construction of the drill pad (platform). The likely duration of well development, testing, and abandonment is 3 or 4 months per site. The total disturbance for each exploratory well and any new road is estimated to be less than 5 acres. The total surface disturbance caused by exploratory drilling over the life of this plan is expected to be about 13 acres.

Field development and production:

Exploratory drilling is not expected to lead to the development of a producing field in the planning area. Nonetheless, the following scenario describes the operations and effects associated with field development.

Any oil and gas deposits found in the planning area will probably be too small to be economically developed. The minimum size considered economically feasible would be a field containing reserves of 50–60 billion cubic feet of gas with a productive life of 10 years. The total area of the field would be 800 acres, with a likely well spacing of 160 acres. The field would require four development wells in addition to the discovery well. Each development well would require 0.25-mile of road. Development well access roads would have a surface of crushed aggregate or gravel and would be approximately 20 feet wide (total disturbed width of 40 feet). Gas produced would be carried by pipelines that could be linked to existing and proposed gas transmission lines in the planning area. Average pipeline length is estimated to be 40–50 miles. The width of the surface disturbance for pipelines would average 30 feet. Any oil produced would be trucked to refineries outside of Oregon. Established companies would service the wells.

The total surface disturbance would be 8 acres for well pads, 5 acres for roads, 13 acres for field development; and 725 acres for pipelines (145 acres/well site). The total surface disturbance caused by exploration and development would be 761 acres.

Plugging and abandonment:

Wells that are completed as dry holes are plugged according to a plan designed for the condition of each well. Plugging involves placing cement plugs at strategic locations in the hole. Drilling mud is used as a spacer between the plugs to prevent communication between fluid-bearing zones. The drill casing is cut off at least 3 feet below ground level and capped by welding a steel plate on the casing stub. After plugging, all equipment and debris would be removed and the site restored as near as reasonably possible to its original condition. It is projected that one exploratory well that may be drilled would be plugged and abandoned.

Reasonably Foreseeable Development of Geothermal Resources (Alternatives A–D)

Future trends and assumptions: Because environmental protection and enhancement are major concerns in the Pacific Northwest, sources of energy with a small environmental impact are becoming increasingly important. The energy surplus in the region is expected to disappear by the end of the 20th century. The abundant geothermal energy resources thought to exist in the Northwest are essentially undeveloped, especially in the planning area. With recent interest in geothermal resources expressed by some governmental entities, such as the Bonneville Power Administration, geothermal exploration and possibly development will probably continue in the planning area.

Geophysical/geochemical exploration:

As with oil and gas, geothermal/geophysical operations can take place on leased or unleased public land. The operator must comply with all terms and conditions of permits, NEPA, regulations, and other requirements, including reclamation, prescribed by the authorized officer. Monitoring for compliance with these requirements would be done during operations and upon their completion.

In addition to geophysical methods discussed in the previous section on oil and gas, the following exploration techniques are often employed in geothermal prospecting:

Microseismic: Small seismometers buried at a shallow depth (hand-dug holes) transmit signals from naturally occurring, extremely minor seismic activity (micro-earthquakes) to an amplifier on the surface. Stations are located away from roads to avoid the effects of traffic. These units are often backpacked into areas inaccessible to vehicles.

Resistivity: Induced polarization techniques are used to measure the resistance of subsurface rocks to the passage of an electric current. A vehicle-mounted transmitter sends pulses of electric current into the ground through two widely spaced electrodes (usually about 2 miles apart). The behavior of these electrical pulses as they travel through underlying rocks is recorded by small devices that receive the current at different locations. The electrodes are either short rods (2–3 feet long) driven into the ground or aluminum foil shallowly buried over an area of several square feet. Two or three small trucks transport a crew of three to five people to transmitting and receiving sites.

Telluric: A string of receivers record the variations in the natural electric currents in the earth. No transmitter is required. Small trucks are used to transport the crew and equipment.

Radiometric: Radioactive emissions (generally radon gas) associated with geothermal resources are measured using a hand-held scintillometer, often at hot spring locations. Another method involves placing plastic cups containing small detector strips sensitive to alpha radiation either on the surface or in shallow hand-dug holes. If holes are dug, they are covered, and the cups are left in place for 3 to 4 weeks. At the end of the sampling period, the cups are retrieved and all holes are backfilled. These surveys can be conducted by walking to the sites or with the aid of light vehicles.

Geochemical surveys: Geochemical surveys are usually conducted at hot springs by taking water samples directly from the spring. Mercury associated with geothermal resources is often sampled using hand tools. These surveys can be conducted by walking to the sites or with the aid of light vehicles.

Temperature gradient drill hole surveys: Temperature gradient holes are used to determine the rate of change of temperature with respect to depth. Temperature gradient holes usually vary in diameter from about 3.5 to 4.5 inches, and from a few hundred feet to 5,000 feet in depth. They are drilled using rotary or coring methods. Approximately 0.1 to 0.25-acre/drill hole would be disturbed. A typical drill site could contain a drill rig (most likely truck-mounted), water tank(s), fuel tank, supply trailer, and a small trailer for the workers. Drilling mud and fluids would be contained in earthern pits or steel tanks. Water for drilling would be hauled in water trucks, or if suitable water sources are close, could be piped directly to the site. Water consumption could range from about 2,000 to 6,000 gallons/day, with as much as 20,000 gallons/day under extreme lost circulation conditions.

Other equipment that could be used includes large flatbed trucks to haul drill rod, casing, and other drilling supplies; in some cases special cementing and bulk cement trucks; and two small vehicles for transporting workers. In most cases, existing roads would be used. It is likely that short spur trails (usually less than 500 yards) would be bladed for less than 10 percent of these holes. All holes would be plugged and abandoned to protect both surface and subsurface resources, including aquifers, and reclamation of disturbed areas would be required, unless some benefit to the public could be gained (for example, a water well or camping area).

Depending upon the location and proposed depth of the drill hole, detailed plans of operation that cover drilling methods, casing and cementing programs, well control, and plugging and abandonment could be required. Based upon past geothermal exploration in Oregon and a projected increase in power demand in the Northwest by the end of the century, it is expected that 6 notices of intent for surface geophysical surveys and 5 notices of intent to drill 30 temperature gradient holes would be filed under Alternatives A–D during the life of this plan. These notices of intent would most likely be filed in areas of high potential for geothermal resources. Total surface disturbance resulting from geophysical surveys over the life of the plan is expected to be about 0.5-acre, and disturbance resulting from temperature gradient holes is expected to be about 5.5 acres.

Drilling and testing:

Drilling to detect, test, develop, produce, or inject geothermal resources can be done only on land covered by a geothermal lease.

A typical geothermal well drilling operation would require 2–4 acres for a well pad, including reserve pit, and 0.5-mile of moderate duty access road with a surface 18 to 20 feet wide (total disturbed width, with ditches, cuts, and fills, of 40 feet). Existing roads would be used whenever possible. Total surface disturbance for each well and any new road is expected to be less than 6 acres. In some cases, more than one production well could be drilled from one pad. Well spacing would be determined by the authorized officer after considering topography, reservoir characteristics, the optimum number of wells for proposed use, protection of correlative rights, potential for well interference, interference with the multiple uses of the land, and protection of the surface and subsurface environment. There would be close coordination with the State of Oregon. The expected duration of well development, testing, and abandonment (if dry) would be 6 months. It is estimated that eight exploratory wells would be drilled under Alternatives A–D during the life of the plan, resulting in a total surface disturbance of 34 acres.

Plugging and abandonment:

Before abandonment, the operator would be required to plug the hole to prevent contamination of aquifers and any effects to subsurface and surface resources. Cement plugs would be placed at strategic locations in the hole using the same techniques as for exploratory oil and gas wells. Any new roads not needed for other purposes would be reclaimed.

Geothermal power plant development:

It is projected that one power plant generating 25 megawatts of electricity (gross) may be constructed within an area of high potential for geothermal resources under Alternatives A–D during the life of the plan and employing an estimated 30 people. It is expected that the developed geothermal power plant would be water-dominated and that the geothermal power conversion system would either be single or double flash, or binary cycle. Before geothermal development could occur, site-specific baseline studies and environmental analyses, with public involvement, would be done. The scenario below describes the level of disturbance that would most likely occur from the development of a 25-megawatt power plant.

Five to seven production wells and one or two injection wells would be drilled. Access would be provided by existing roads and new, short roads (0.5–1-mile long) 18 to 20 feet wide (up to 40 feet total disturbed width). Surface disturbance from well pad and road construction would probably range from 2 to 6 acres per well. The power plant, including separators, energy converters, turbines, generators, condensers, cooling towers, and switchyard, would cover an estimated 10 to 15 acres. Pipelines and power lines would disturb an additional 3 to 6 acres. If a water cooling system is employed, one to three water wells, requiring approximately 0.25-acre per well, would be drilled, unless the cooling water was obtained from the geothermal steam condensate. Depending upon the location, terrain, geothermal reservoir characteristics, and type of generating facility, the total surface disturbance would probably range from 25 to 75 acres, most likely about 50 acres. After construction, approximately one-third to one-half of the disturbed area would be revegetated. The remaining disturbed area would be reclaimed before abandonment.

Direct use of geothermal energy:

Low and moderate-temperature (300 to 500 degrees F) geothermal resources may have direct applications, including space heating and cooling of residences and businesses; applications in agriculture and industry; and recreational and therapeutic bathing. Depending on the type of use and magnitude of operation, surface disturbance could range from a few acres for a well and greenhouse or food processing facility, to tens of acres for larger agricultural or aquacultural developments. Although geothermal resources are found throughout the planning area, the small, somewhat isolated population makes any direct use of geothermal energy on public land unlikely.

Locatable Mineral Resources

Reasonably Foreseeable Development Scenarios (Alternatives A–D)

The major commodities of interest over the next 15 to 20 years will probably be gold/silver, bentonite, zeolite, and diatomite. This assessment is based on market conditions (especially for precious metals) and the favorable geologic environment for mineral occurrences. Reclamation science will continue to advance due to experience and research. More detailed design will be required for the reclamation of mined land in the future. This will likely increase reclamation costs but should also increase long-term reclamation success.

The economics of mining in the planning area will be driven by the relationship between production costs and the market price of the commodity. Whereas production costs can be controlled, or anticipated through management and technology, the price of a commodity is difficult to predict over time. The overall profitability of an operation—and hence the level of activity at the prospecting, exploration and mining stages—for development of ore bodies is closely related to the price of the mineral commodity.

Over the next 15 to 20 years, it is expected that five mines may be developed in the planning area: one open-pit gold mine using chemical heap leaching, at least in part; one underground gold mine; and one mine each of bentonite, zeolite, and diatomite.

Background on the Development of a Locatable Minerals Mine

Typically, the development of a mine goes through five stages, with each stage using progressively more sophisticated (and more expensive) techniques over a successively smaller area to identify, develop, and produce an economic mineral deposit. The full sequence of developing a mineral project involves reconnaissance, prospecting, exploration, economic evaluation, and development.

Reconnaissance:

Reconnaissance is the first stage in exploring for a mineral deposit. This involves an initial literature search for the area of interest using available references, such as publications, reports, maps, and aerial photographs. Because the study area is usually large, varying from hundreds to thousands of square miles, this stage normally involves large-scale mapping, regional geochemical and/or geophysical studies, and remote sensing with aerial or satellite imagery. These studies are generally undertaken with minimal surface disturbance, which usually consists of stream sediment, soil, or rock sampling. Minor off-highway vehicle use may be required.

Prospecting:

If reconnaissance identifies anomalous geochemical or geophysical readings, rare or unusual geological features, evidence of mineralization, or a historical reference to mineral occurrence, a prospecting area of interest is identified. This area could range from a single square mile to an entire mountain range of several hundred square miles.

Activity to locate a mineral prospect includes more detailed mapping, sampling, and geochemical and geophysical study programs. This is the time when property acquisition efforts usually begin and most mining claims are located to secure ground while trying to make a mineral discovery. Surface-disturbing activities associated with prospecting include more intense soil and rock chip sampling, using mostly hand tools; frequent off-highway vehicle use; and placement and maintenance of mining claim monuments. This activity is usually considered casual use (43 CFR 3809.1-2) and does not require BLM notification or approval.

Exploration:

Upon location of a sufficiently anomalous mineral occurrence or favorable occurrence indicator, a mineral prospect is established and subjected to more intense evaluation through exploration techniques. Activities during exploration include those used during prospecting, but at a more intense level and in a small area. In addition, road construction, trenching, and drilling take place. In the later stages of exploration, an exploratory adit or shaft may be driven. If the prospect already has underground workings, these may be sampled, drilled, or extended. Exploration activities use mechanized earth-moving equipment, drill rigs, etc., and may involve the use of explosives.

Typical exploration projects in the planning area could include in-stream dredging with portable suction dredges; exploratory drilling, which could include construction of new roads; use of explosives to sample rock outcroppings; and excavation of test pits. If the exploration project disturbs 5 acres or less, it is conducted under a notice (43 CFR 3809.1-3) which requires the operator to notify the BLM at least 15 days prior to beginning the activity. A copy of each notice is sent to the Reclamation Branch of the Oregon DOGAMI for review. If a project disturbs more than 5 acres, it is conducted under a plan of operations (43 CFR 3809.1-4) and requires NEPA compliance prior to approval.

Economic evaluation: If an exploration project discovers a potentially economic deposit, activity would intensify to obtain detailed knowledge of the deposit (e.g., ore grade and deposit size), possible mining methods, and mineral processing requirements. This would involve applying all the previously used exploration tools in a more intense effort. Once enough information is obtained, a feasibility study would be made to decide whether to proceed with mine development and what mining and ore processing methods would be used.

Mine development: Once the decision to develop a property has been made, the mine permitting process begins. Upon approval, work begins on development of the mine infrastructure. This includes constructing the mill, offices, and laboratory; driving development workings if the property is to be an underground mine, or prestripping if it is to be an open-pit mine; building access or haul roads; and placing utility services. Evaluations of ore reserves may be refined at this time.

Once enough facilities are in place, production begins. Satellite exploration efforts may be conducted simultaneously to expand the mine's reserve base and extend the project life. The property is reclaimed concurrently with the mining operation or upon its completion. Often uneconomic resources remain unmined and the property dormant until changes in commodity prices or production technology makes these resources economically feasible to mine.

Activities on these lands include actual mining, ore processing, tailings disposal, waste rock placement, solution processing, metal refining, and placement of support facilities, such as repair shops, laboratories, and offices. Such activities require the use of heavy earth-moving equipment and explosives for mining and materials handling, exploration equipment for refining the ore reserve base, hazardous or dangerous reagents for processing requirements, and other equipment for general construction.

The size of mines varies greatly, and not all mines require all of the previously mentioned facilities and equipment. The amount of land involved can range from only a few acres to several hundred, with most projects disturbing 5 acres or less and requiring a notice pursuant to 43 CFR 3809.1-3. Projects disturbing more than 5 acres require an approved plan of operations pursuant to 43 CFR 3809.1-4.

Reasonably Foreseeable Development

Gold/Silver

Exploration: Based on mineral exploration activity over the past 10 years and known occurrences in the planning area of both hot springs and porphyry gold, a substantial amount of exploration for gold is expected to take place during the life of this plan. Depending on the market for gold, up to 50 exploration projects for hot springs or porphyry gold and up to 10 exploration projects for placer gold are expected over the next 15 to 20 years in areas of moderate to high potential for gold/silver. A typical hot springs/porphyry exploration project would involve six drill holes and approximately 0.5-mile of new road 12 feet wide (total disturbed width of 20 feet) for each drill hole, resulting in 4.2 acres of disturbance/project, or 210 acres of total disturbance. A typical placer exploration project would use either an in-stream suction dredge, which would produce negligible surface disturbance, or a backhoe to dig up to five small trenches, assumed to be 8 feet wide by 10 feet long by 15 feet deep. Surface disturbance would be about 0.01-acre/project, or 0.05-acre of total disturbance.

Economic evaluation/mine development: Exploration activity is expected to result in the discovery of seven economically mineable gold deposits: 5 small placers, employing about 10 people; 1 open-pit deposit, employing about 170 people; and 1 underground deposit, employing about 50 people. All deposits would be located in areas of high potential for gold/silver. The placer deposits would be small, less than 100,000 yards of ore each, and would necessitate use of trommels, sluice boxes, or other small placering equipment, resulting in about 4 acres of disturbance/operation. Total surface disturbance would be 20 acres.

The open-pit mine is expected to contain between 10 and 90 million tons of ore, with a probable size of 15 million tons, averaging 0.06 troy ounces of gold per ton. Detailed exploration and feasibility studies would involve the construction of about 30 miles of road 12 feet wide (total disturbed width of 20 feet with ditches, cuts, and fills), and 300 drill sites, for a total disturbance of 75 acres. Development of the deposit would involve creation of an open pit, 2,100 feet in diameter and 800 feet deep; a mill complex; a cyanide heap leach pad; a tailings disposal facility; a waste disposal facility; approximately 5 miles of internal gravelled haul road 90 feet wide with a total disturbance of 100 feet; and 15 miles of all-weather access road 20 feet wide (total disturbed width of 36 feet). Surface disturbance would cover 85 acres for the pit, 40 acres for the mill complex, 65 acres for the heap leach pad, 140 acres for the tailings disposal facilities, 260 acres for the waste disposal facilities, 60 acres for internal haul roads, and 65 acres for access roads. Total surface disturbance caused by this project would be 715 acres.

The underground mine is expected to contain between 100,000 and 3 million tons of ore, with a probable size of 400,000 tons, averaging 0.5 troy ounces of gold per ton. Detailed exploration and feasibility studies would involve the construction of approximately 1-mile of road 12 feet wide (total disturbed width of 20 feet), 100 drill sites, and an adit (8 feet high by 12 feet wide by 300 feet long), for a total disturbance of 7 acres. Development of the deposit would involve underground workings 1,000 feet long by 50 feet wide by 250 feet deep; a mill complex; tailings disposal facility; waste disposal facility; 1-mile of haul road 30 feet wide (total disturbed width of 48 feet); and 20 miles of access road 20 feet wide (total disturbed width of 36 feet). Disturbance would cover 5 acres for the surface mine workings, 10 acres for the mill complex, 20 acres for tailings disposal facilities, 25 acres for waste disposal facilities, 3 acres for haul roads, and 85 acres of access road. Total disturbance caused by this project would be 148 acres.

Industrial Minerals

Exploration: Based on mineral exploration activity over the past 10 years and known occurrences in the planning area, a moderate amount of exploration for industrial minerals—mainly bentonite, zeolite, and diatomite—is expected during the life of this plan. Depending on market conditions, up to nine projects are expected: four for bentonite, two for zeolite, and three for diatomite. Exploration for these commodities is essentially the same, consisting of auger holes or trenching and road construction. An average project would involve up to 10 auger holes; 5 trenches 20–25 feet wide, 60–125 feet long, and 15–25 feet deep; and 1,000 feet of road 12 feet wide (total disturbed width of 20 feet), for a disturbance of 0.8 to 1-acre/project. Total disturbance would be about 9 acres.

Economic evaluation/mine development: Exploration activity is expected to result in the discovery of three economically mineable deposits, one each of bentonite, employing about 16 people; zeolite, employing about 3 people; and diatomite, employing about 52 people. The following scenarios are based on mine models developed by the U.S. Bureau of Mines in its "Mineral Resource Assessment for the BLM Malheur-Jordan Resource Areas, Oregon" (Open File Report 1994).

The bentonite deposit is expected to contain between 80,000 and 250,000 tons of ore, most probably about 150,000 tons, with an assumed moisture content of 31 percent. Development of the deposit would involve an open pit approximately 500 feet long by 300 feet wide by 45 feet deep, with a bentonite bed 20 feet thick; a mill complex, assumed to be 25 miles off-site on public land; a drying stockpile near the pit; 3,000 feet of haul road 20 feet wide (total disturbed width of 36 feet); and 10 miles of access road 20 feet wide (total disturbed width of 36 feet). Surface disturbance would be 3.5 acres for the pit, 2 acres for the stockpile, 2.5 acres for the haul road, 44 acres for the access road, and 10 acres for the mill. The total disturbance would be about 62 acres.

The zeolite deposit is expected to contain between 50,000 and 120,000 tons of ore, most probably about

85,000 tons, with an assumed moisture content of 25 percent. Development of the deposit would involve an open pit approximately 1,000 feet long by 130 feet wide by 30 feet deep, with a zeolite bed 20 feet thick; a mill complex, assumed to be on public land 15 miles off-site and adjacent to a paved road; a stockpile near the pit; 100 feet of haul road 20 feet wide (total disturbed width of 36 feet); and 10 miles of access road 20 feet wide (total disturbed width of 36 feet). Surface disturbance resulting from this mine would be 3 acres for the pit, 1-acre for the stockpile, 0.1-acre for the haul road, 44 acres for the access road, and 5 acres for the mill. Total disturbance would be 53.1 acres.

The diatomite deposit is expected to contain between 600,000 and 2 million tons of ore, most probably about 1 million tons, with an assumed moisture content of 55 percent. Development of the deposit would involve an open pit approximately 1,850 feet long by 730 feet wide by 75 feet deep, with a diatomite bed 44 feet thick; a mill complex, assumed to be on public land 20 miles off-site and adjacent to a paved road; a stockpile near the pit; 3,500 feet of haul road 32 feet wide (total disturbed width of 48 feet); and 10 miles of access road 20 feet wide (total disturbed width of 36 feet). Surface disturbance resulting from this mine would be 30 acres for the pit, 5 acres for the stockpile, 4 acres for the haul road, 44 acres for the access road, and 25 acres for the mill. Total disturbance would be 108 acres.

Saleable Mineral Resources

Reasonably Foreseeable Development Scenarios (Alternatives A–D).

The major use of saleable minerals (primarily sand and gravel and crushed/broken rock) would continue to be for road construction and maintenance by the Oregon Department of Transportation and Malheur/Harney County road districts. Most of this activity would be routine seasonal maintenance on county roads, although several major projects to upgrade/realign State or Federal highways are expected, which would result in a moderate increase in demand for the materials. Because the population of the area is expected to increase by about 14,000 over the life of this plan, it is likely that public demand for saleable minerals will increase slightly over current levels, with the highest demand for decorative stone.

Existing sources of material, including quarries, pits, and surface collecting areas, would handle some of the increased demand. Many of the sites, however, have a small reserve base and could be depleted in a few years. Consequently, up to 30 new sources of material—10 sand and gravel pits, 15 rock quarries, and 5 collecting areas for decorative stone—may need to be developed during the next 15 to 20 years:

Background on the Development of Saleable Mineral Deposits

Development of a saleable mineral deposit goes through a sequence similar to that for locatable minerals and includes reconnaissance, prospecting, exploration (sampling and testing), and development. Unlike the process for locatable minerals, however, written approval (i.e., a permit) must be obtained from the BLM and the material must be purchased by the operator (in the case of a private citizen or commercial operator) before the deposit can be developed, as required by the 1947 Materials Act, as amended (30 U.S.C. 601 *et seq.*). The act also grants the Federal government discretionary authority to deny permission to develop a deposit if the damage to public land or resources would outweigh the economic benefits of development.

Reconnaissance and prospecting for saleable minerals involves a literature search, field examination, geologic mapping (if necessary), and surface sampling. Surface disturbance is usually negligible. Exploration is usually confined to a small area and generally involves drilling or core drilling to determine whether the material meets construction standards. Because exploration is normally limited to areas with good access to major roads, little or no road construction is involved. A typical operation usually involves a number of small trenches or core holes and would disturb less than 0.01-acre/site. Mine development normally involves a pit or quarry, space for processing (crusher, stockpile, and occasionally an asphalt plant), and a staging area for trucks (loading and a turnaround area). Disturbance normally covers about 2 to 3 acres/project.

Reasonably Foreseeable Development

Exploration

During the next 15 to 20 years, up to 60 exploration projects are expected within the planning area in areas of known or suspected occurrences of mineral materials. Approximately 20 projects may be conducted for sand and gravel, 30 for rock aggregate (crushable or naturally broken material), and 5 for decorative rock.

A typical sand and gravel operation would involve up to five trenches, perhaps 8 by 10 feet and up to 20 feet deep, disturbing about 100 square feet per trench, or about 0.01-acre/project; total disturbance would be approximately 0.25-acre. A typical rock aggregate exploration project would involve up to eight core holes, disturbing about 0.01-acre/hole, or 0.1-acre/project; total disturbance would be about 3 acres. A typical decorative rock exploration project would use no mechanized equipment and would be limited to surface sampling, essentially identical to a prospecting project; surface disturbance would be negligible.

Development

Sand and gravel: During the life of the plan, it is expected that 10 new sand and gravel deposits with good quality material will be developed in easily accessible areas (i.e., within a few miles of major roads). Site-specific assessments required by NEPA, and inventories of cultural resources and threatened and endangered species, would be conducted prior to development. Existing pits would continue to be used as much as possible, with up to 20 percent (perhaps eight pits) closed due to depletion. A typical development of a sand and gravel deposit would contain a pit, stockpile area, processing area (crusher, washer, screener, conveyor, and perhaps asphalt plant), truck loading and turnaround area, and about 0.5-mile of new road 20 feet wide (36 feet total disturbed width). Disturbance for each project would be 2 acres for the pit, processing, and gravel and waste stockpile and 2 acres for the access road, or approximately 4 acres/project. Total disturbance would be 40 acres.

Rock aggregate: During the life of this plan, it is expected that 15 new deposits of good quality material will be developed in easily accessible areas (i.e., within a few miles of major roads). When the State Highway Department needs additional sources of material for major projects, Highway Material Rights-of-Way will be granted under Title 23 of the Federal Highway Act for an estimated eight deposits adjacent to major highways.

Like sand and gravel, rock aggregate deposits would require site-specific NEPA assessments and inventories of cultural resources and threatened and endangered species prior to development. Existing pits would continue to be used as much as possible. Up to 25 percent (seven pits) will probably be closed due to depletion and then reclaimed.

A typical rock aggregate quarry would be essentially the same as a sand and gravel operation and would contain a pit, stockpile area, truck turnaround and loading area, processing area (crusher, screener, washer, conveyor, asphalt plant, etc.), and about 2,500 feet of new access road 20 feet wide (36 feet total disturbed width). Disturbance would cover 2 acres for the quarry operations and 2 acres for the access road, or 4 acres per project. Total disturbance would be 60 acres.

Decorative stone: A population increase of about 14,000 over the next 15 to 20 years will result in a moderate increase in demand for decorative material. It is expected that five new collecting sites would be designated to meet the increase in demand. These sites would be scattered throughout the planning area and would generally be reached by existing roads. Site-specific NEPA assessments and inventories for cultural resources and threatened and endangered species would be required prior to designation.

Extraction of the material would be by surface methods only—i.e., loading onto pickup or flatbed trucks or pallets, by hand or by rubber-tired front-end loaders. Surface disturbance resulting from these operations would be negligible.

Appendix Q
Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington

Introduction

These Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington were developed in consultation with resource advisory councils and provincial advisory committees, tribes, and others. These standards and guidelines meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health) and are to be used as presented, in their entirety. These standards and guidelines are intended to provide a clear statement of agency policy and direction for those who use public land for livestock grazing, and for those who are responsible for their management and accountable for their condition. Nothing in this document should be interpreted as an abrogation of Federal trust responsibilities in protection of treaty rights of Indian tribes or any other statutory responsibilities including, but not limited to, the Taylor Grazing Act, Clean Water Act, and Endangered Species Act.

Fundamentals of Rangeland Health

The objectives of the rangeland health regulations referred to above are: "to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions . . . and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands."

To help meet these objectives, the regulations on rangeland health identify fundamental principles providing direction to the states, districts, and on-the-ground public land managers and users in the management and use of rangeland ecosystems.

A hierarchy, or order, of ecological function and process exists within each ecosystem. The rangeland ecosystem consists of four primary, interactive components: a physical component, a biological component, a social component, and an economic component. This perspective implies that the physical function of an ecosystem supports the biological health, diversity and productivity of that system. In turn, the interaction of the physical and biological components of the ecosystem provides the basic needs of society and supports economic use and potential.

The fundamentals of rangeland health stated in 43 CFR 4180 are:

1) Watersheds are in, or are making significant progress toward, properly functioning physical condition,

including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity and the timing and duration of flow.

2) Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

3) Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM objectives such as meeting wildlife needs.

4) Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal proposed, Category 1 and 2 Federal candidate and other Special Status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health with elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the standards for rangeland health.

Standards for Rangeland Health

The standards for rangeland health (standards), based on the above fundamentals, are expressions of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems. Although the focus of these standards is on domestic livestock grazing on BLM-administered land, on-the-ground decisions must consider the effects and impacts of all uses.

Standards that address the physical components of rangeland ecosystems focus on the roles and interactions of geology and landform, soil, climate, and water as they govern watershed function and soil stability. The biological components addressed in the standards focus on the roles and interactions of plants, animals, and microbes (producers, consumers, and decomposers), and their habitats in the ecosystem. The biological component of rangeland ecosystems is supported by physical function of the system, and it is recognized that biological activity also influences and supports many of the ecosystem's physical functions.

Guidance contained in 43 CFR 4180 of the regulations directs management toward the maintenance or restoration of the physical function and biological health of rangeland ecosystems. Focusing on the basic ecological health and function of rangelands is expected to provide for the maintenance, enhancement, or creation of future social and economic options.

The standards are based on the ecological potential and capability of each site. In assessing a site's condition or degree of function, it must be understood that the evaluation compares each site to its own potential or capability. Potential and capability are defined as follows:

Potential—The highest level of condition or degree of function a site can attain given no political, social or economic constraints.

Capability—The highest level of condition or degree of function a site can attain given certain political, social or economic constraints. For example, these constraints might include riparian areas permanently occupied by a highway or railroad bed that prevent the stream's full access to its original floodplain. If such constraints are removed, the site may be able to move toward its potential.

In designing and implementing management strategies to meet the standards of rangeland health, the potential of the site must be identified, and any constraints recognized, in order that plan goals and objectives are realistic and physically and economically achievable.

Standards and Guidelines in Relation to the Planning Process

The standards apply to the goals of land use plans, activity plans, and project plans (Allotment Management Plans (AMPs)), annual operating plans, habitat management plans, etc.). They establish the physical and biological conditions or degree of function toward which management of publicly-owned rangeland is to be directed. In the development of a plan, direction provided by the standards and the social and economic needs expressed by local communities and individuals are brought together in formulating the goal(s) of that plan.

When the standards and the social and economic goals of the planning participants are woven together in the plan goal(s), the quantifiable, time-specific objective(s) of the plan are then developed. Objectives describe and quantify the desired future conditions to be achieved within a specified timeframe. Each plan objective should address the physical, biological, social, and economic elements identified in the plan goal.

Standards apply to all ecological sites and landforms on public rangelands throughout Oregon and Washington. The standards require site-specific information for full on-the-ground usability. For each standard, a set of indicators is identified for use in tailoring the standards to site-specific situations. These indicators are used for rangeland ecosystem assessments and monitoring and for developing terms and conditions for permits and leases that achieve the plan goal.

Guidelines for livestock grazing management offer guidance in achieving the plan goal and objectives. The guidelines outline practices, methods, techniques and considerations used to ensure that progress is achieved in a way, and at a rate, that meets the plan goal and objectives.

Indicators of Rangeland Health

The condition or degree of function of a site, in relation to the standards and its trend toward or away from any standard, is determined through the use of reliable and scientifically sound indicators. The consistent application of such indicators can provide an objective view of the condition and trend of a site when used by trained observers.

For example, the amount and distribution of ground cover can be used to indicate that infiltration at the soil surface can take place as described in the standard relating to upland watershed function. In applying this indicator, the specific levels of plant cover necessary to support infiltration in a particular soil should be identified using currently available information from reference areas, if they exist; from technical sources like soil survey reports, ecological site inventories, and ecological site descriptions, or from other existing reference materials. Reference areas are land that best represent the potential of a specific ecological site in both physical function and biological health. In many instances potential reference areas are identified in ecological site descriptions and are referred to as "type locations." In the absence of suitable reference areas, the selection of indicators to be used in measuring or judging condition or function should be made by an interdisciplinary team of experienced professionals and other trained individuals.

Not all indicators identified for each standard are expected to be employed in every situation. Criteria for selecting appropriate indicators and methods of measurement and observation include, but are not limited to (1) the relationship between the attribute(s) being measured or observed and the desired outcome; (2) the relationship between the activity (e.g., livestock grazing) and the attribute(s) being measured or observed; and (3) funds and workforce available to conduct the measurements or observations.

Assessments and Monitoring

The standards are the basis for assessing and monitoring rangeland condition and trend. Carrying out well-designed assessment and monitoring is critical to restoring or maintaining healthy rangelands and determining trends and conditions.

Assessments are a cursory form of evaluation based on the standards that can be used at different landscape scales. Assessments, conducted by qualified interdisciplinary teams (which may include but are not limited to physical, biological and social specialists, and interagency personnel) with participation from permittees and other interested parties, are appropriate at the watershed and subwatershed levels, at the allotment and pasture levels and on individual ecological sites or groups of sites. Assessments identify the condition or degree of function within the rangeland ecosystem and indicate resource problems and issues that should be monitored or studied in more detail. The results of assessments are a valuable tool for managers in assigning priorities within an administrative area and the subsequent allocation of personnel, money, and time in resource monitoring and treatment. The results of assessments may also be used in making management decisions where an obvious problem exists.

Monitoring, which is the well-documented and orderly collection, analysis, and interpretation of resource data, serves as the basis for determining trends in the condition or degree of function of rangeland resources and for making management decisions. Monitoring should be designed and carried out to identify trends in resource conditions, to point out resource problems, to help indicate the cause of such problems, to point out solutions, and/or to contribute to adaptive management decisions. In cases where monitoring data do not exist, professional judgment, supported by interdisciplinary team recommendation, may be relied upon by the authorized officer in order to take necessary action. Review and evaluation of new information must be an ongoing activity.

To be effective, monitoring must be consistent over time, throughout administrative areas, and in the methods of measurement and observation of selected indicators. Those doing the monitoring must have the knowledge and skill required by the level or intensity of the monitoring being done, as well as the experience to properly interpret the results. Technical support for training must be made available.

Measurability

It is recognized that not every area will immediately meet the standards and that it will sometimes be a long-term process to restore some rangelands to properly functioning condition. It is intended that in cases where standards are not being met, measurable progress should be made toward achieving those standards, and significant progress should be made toward fulfilling the fundamentals of rangeland health. Measurability is defined on a case-specific basis based upon the stated planning objectives (i.e., quantifiable, time-specific), taking into account economic and social goals along with the biological and ecological capability of the area. To the extent that a rate of recovery conforms with the planning objectives, the area is allowed the time to meet the standard under the selected management regime.

Implementation

The material contained in this document will be incorporated into existing land use plans and used in the development of new land use plans. According to 43 CFR 4130.3-1, permits and leases shall incorporate terms and conditions that ensure conformance with 43 CFR 4180. Terms and conditions of existing permits and leases will be modified to reflect standards and guidelines at the earliest possible date, with priority for modification being at the discretion of the authorized officer. Terms and conditions of new permits and leases will reflect standards and guidelines in their development.

Indicators identified in this document will serve as a focus of interpretation of existing monitoring data and will provide the basis of design for monitoring and assessment techniques, and in the development of monitoring and assessment plans.

The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining, through assessment or monitoring by experienced professionals and interdisciplinary teams, that a standard is not being achieved and that livestock are a significant contributing factor to the failure to achieve the standards and conform with the guidelines.

Standards for Rangeland Health

Standard 1: Watershed Function – Uplands

Upland soils exhibit infiltration and permeability rates, moisture storage and stability that are appropriate to soil, climate, and landform.

Rationale and intent:

This standard focuses on the basic physical functions of upland soils that support plant growth, the maintenance or development of plant populations and communities, and promote dependable flows of quality water from the watershed.

To achieve and sustain rangeland health, watersheds must function properly. Watersheds consist of three principle components: the uplands, riparian/wetland areas, and the aquatic zone. This standard addresses the upland component of the watershed. When functioning properly, within its potential, a watershed captures, stores, and safely releases the moisture associated with normal precipitation events (equal to or less than the 25-year, 5-hour event) that falls within its boundaries. Uplands make up the largest part of the watershed and are where most of the moisture received during precipitation events is captured and stored.

While all watersheds consist of similar components and processes, each is unique in its individual makeup. Each watershed displays its own pattern of landform and soil, its unique climate and weather patterns, and its own history of use and current condition. In directing management toward achieving this standard, it is essential to treat each unit of the landscape (soil, ecological site, and watershed) according to its own capability and how it fits with both smaller and larger units of the landscape.

A set of potential indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The appropriate indicators to be used in determining attainment of the standard should be drawn from the following list.

Potential indicators:

Protection of the soil surface from raindrop impact; detention of overland flow; maintenance of infiltration and permeability, and protection of the soil surface from erosion, consistent with the potential/capability of the site, as evidenced by the:

- amount and distribution of plant cover (including forest canopy cover);
- amount and distribution of plant litter;
- accumulation/incorporation of organic matter;
- amount and distribution of bare ground;
- amount and distribution of rock, stone, and gravel;
- plant composition and community structure;
- thickness and continuity of the "A" horizon;
- character of microrelief;
- presence and integrity of biotic crusts;
- root occupancy of the soil profile;

- biological activity (plant, animal, and insect); and
- absence of accelerated erosion and overland flow.

Soil and plant conditions promote moisture storage as evidenced by:

- amount and distribution of plant cover (including forest canopy cover);
- amount and distribution of plant litter;
- plant composition and community structure; and
- accumulation/incorporation of organic matter.

Standard 2: Watershed Function – Riparian/Wetland Areas

Riparian/wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Rationale and intent:

Riparian/wetland areas are grouped into two major categories (1) lentic, or standing water systems such as lakes, ponds, seeps, bogs, and meadows; and (2) lotic, or moving water systems such as rivers, streams, and springs. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Riparian areas commonly occupy the transition zone between the uplands and surface water bodies (the aquatic zone) or permanently saturated wetlands.

Properly functioning condition of riparian and wetland areas describes the degree of physical function of these components of the watershed. Their functionality is important to water quality in the capture and retention of sediment and debris, the detention and detoxification of pollutants, and in moderating seasonal extremes of water temperature. Properly functioning riparian areas and wetlands enhance the timing and duration of streamflow through dissipation of flood energy, improved bank storage, and ground water recharge. Properly functioning condition should not be confused with the desired plant community or the desired future condition since, in most cases, it is the precursor to these levels of resource condition and is required for their attainment.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The criteria are based upon the potential (or upon the capability where potential cannot be achieved) of individual sites or landforms.

Potential indicators:

Hydrologic, vegetation, and erosional/depositional processes interact in supporting physical function, consistent with the potential or capability of the site, as evidenced by:

- frequency of floodplain/wetland inundation;
- plant composition, age class distribution, and community structure;
- root mass;
- point bars revegetating;

- streambank/shoreline stability;
- riparian area width;
- sediment deposition;
- active/stable beaver dams;
- coarse/large woody debris;
- upland watershed conditions;
- frequency/duration of soil saturation; and
- water table fluctuation.

Stream channel characteristics are appropriate for landscape position as evidenced by:

- channel width/depth ratio;
- channel sinuosity;
- gradient;
- rocks and coarse and/or large woody debris;
- overhanging banks;
- pool/riffle ratio;
- pool size and frequency; and
- stream embeddedness.

Standard 3: Ecological Processes

Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Rationale and intent:

This standard addresses the ecological processes of energy flow and nutrient cycling as influenced by existing and desired plant and animal communities without establishing the kinds, amounts or proportions of plant and animal community compositions. While emphasis may be on native species, an ecological site may be capable of supporting a number of different native and introduced plant and animal populations and communities while meeting this standard. This standard also addresses the hydrologic cycle which is essential for plant growth and appropriate levels of energy flow and nutrient cycling. Standards 1 and 2 address the watershed aspects of the hydrologic cycle.

With few exceptions, all life on earth is supported by the energy supplied by the sun and captured by plants in the process of photosynthesis. This energy enters the food chain when plants are consumed by insects and herbivores and passes upward through the food chain to the carnivores. Eventually, the energy reaches the decomposers and is released as the thermal output of decomposition or through oxidation.

The ability of plants to capture sunlight energy, to grow and develop, to play a role in soil development and watershed function, to provide habitat for wildlife, and to support economic uses depends on the availability of nutrients and moisture. Nutrients necessary for plant growth are made available to plants through the decomposition and metabolization of organic matter by insects, bacteria and fungi, the weathering of rocks and extraction from the atmosphere. Nutrients are transported through the soil by plant uptake, leaching and by rodent, insect, and microbial activity. They follow cyclical patterns as they are used and reused by living organisms.

The ability of rangelands to supply resources and satisfy social and economic needs depends on the buildup and cycling of nutrients over time. Interrupting or slowing nutrient cycling can lead to site degradation, as this land becomes increasingly deficient in the nutrients plants require.

Some plant communities, because of past use, frequent fire or other histories of extreme or continued disturbance, are incapable of meeting this standard. For example, shallow-rooted winter-annual grasses that completely dominate some sites do not fully occupy the potential rooting depth of some soils, thereby reducing nutrient cycling well below optimum levels. In addition, these plants have a relatively short growth period and thus capture less sunlight than more diverse plant communities. Plant communities like those cited in this example are considered to have crossed the threshold of recovery and often require great expense to be recovered. The cost of recovery must be weighed against the site's potential ecological/economic value in establishing treatment priorities.

The role of fire in natural ecosystems should be considered, whether or not it acts as a primary driver or only as one of many factors. It may play a significant role in both nutrient cycling and energy flows.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met.

Potential indicators:

Photosynthesis is effectively occurring throughout the potential growing season, consistent with the potential/capability of the site, as evidenced by plant composition and community structure.

Nutrient cycling is occurring effectively, consistent with the potential/capability of the site, as evidenced by:

- plant composition and community structure;
- accumulation, distribution, incorporation of plant litter and organic matter into the soil;
- animal community structure and composition;
- root occupancy in the soil profile; and
- biological activity including plant growth, herbivory, and rodent, insect and microbial activity.

Standard 4: Water Quality

Surface water and ground water quality, influenced by agency actions, complies with State water quality standards.

Rationale and intent:

The quality of the water yielded by a watershed is determined by the physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, the uses to which the land is put and the quality of the management of those uses. Standards 1, 2, and 3 contribute to attaining this standard.

States are legally required to establish water quality standards and Federal land management agencies are to comply with those standards. In mixed ownership watersheds, agencies, like any other landowners, have limited influence on the quality of the water yielded by the watershed. The actions taken by the agency will contribute to meeting State water quality standards during the period that water crosses agency administered holdings.

Potential indicators:

Water quality meets applicable water quality standards as evidenced by:

- water temperature;
- dissolved oxygen;
- fecal coliform;
- turbidity;
- pH;
- populations of aquatic organisms; and
- effects on beneficial uses (i.e., effects of management activities on beneficial uses as defined under the Clean Water Act and State implementing regulations).

Standard 5: Native, Threatened and Endangered, and Locally Important Species

Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including Special Status species and species of local importance) appropriate to soil, climate, and landform.

Rationale and intent:

Federal agencies are mandated to protect threatened and endangered species and will take appropriate action to avoid the listing of any species. This standard focuses on retaining and restoring native plant and animal (including fish) species, populations, and communities (including threatened, endangered and other Special Status species and species of local importance). In meeting the standard, native plant communities and animal habitats would be spatially distributed across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability. Plant populations and communities would exhibit a range of age classes necessary to sustain recruitment and mortality fluctuations.

Potential indicators: Essential habitat elements for species, populations, and communities are present and available, consistent with the potential/capability of the landscape, as evidenced by:

- plant community composition, age class distribution, productivity;

- animal community composition, productivity;
- habitat elements;
- spatial distribution of habitat;
- habitat connectivity; and
- population stability/resilience.

Guidelines for Livestock Grazing Management

Guidelines for livestock grazing management offer guidance in achieving plan goals, meeting standards for rangeland health, and fulfilling the fundamentals of rangeland health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees/lessees and the interested public. Guidelines enable managers to adjust grazing management on public land to meet current and anticipated climatic and biological conditions.

General Guidelines

1) Involve diverse interests in rangeland assessment, planning, and monitoring.

2) Assessment and monitoring are essential to the management of rangelands, especially in areas where resource problems exist or issues arise. Monitoring should proceed using a qualitative method of assessment to identify critical, site-specific problems or issues using interdisciplinary teams of specialists, managers, and knowledgeable land users.

Once identified, critical, site-specific problems or issues should be targeted for more intensive, quantitative monitoring or investigation. Priority for monitoring and treatment should be given to those areas that are ecologically at-risk where benefits can be maximized given existing budgets and other resources.

Livestock Grazing Management

1) The season, timing, frequency, duration, and intensity of livestock grazing use should be based on the physical and biological characteristics of the site and the management unit in order to:

a) provide adequate cover (live plants, plant litter, and residue) to promote infiltration, conserve soil moisture, and to maintain soil stability in upland areas;

b) provide adequate cover and plant community structure to promote streambank stability, debris and sediment capture, and floodwater energy dissipation in riparian areas.

c) promote soil surface conditions that support infiltration;

d) avoid subsurface soil compaction that retards the movement of water in the soil profile;

e) help prevent the increase and spread of noxious weeds;

f) maintain or restore diverse plant populations and communities that fully occupy the potential rooting volume of the soil;

g) maintain or restore plant communities to promote photosynthesis throughout the potential growing season;

h) promote soil and site conditions that provide the opportunity for the establishment of desirable plants;

i) protect or restore water quality; and

j) provide for the life cycle requirements, and maintain or restore the habitat elements of native (including threatened and endangered, Special Status, and locally important species) and desired plants and animals.

2) Grazing management plans should be tailored to site-specific conditions and plan objectives. Livestock grazing should be coordinated with the timing of precipitation, plant growth, and plant form. Soil moisture, plant growth stage, and the timing of peak streamflows are key factors in determining when to graze. Response to different grazing strategies varies with differing ecological sites.

3) Grazing management systems should consider nutritional and herd health requirements of the livestock.

4) Integrate grazing management systems into the year-round management strategy and resources of the permittee(s) or lessee(s). Consider the use of collaborative approaches (e.g., coordinated resource management, work groups) in this integration.

5) Consider competition for forage and browse among livestock, big game animals, and wild horses in designing and implementing a grazing plan.

6) Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.

7) Range improvement practices should be prioritized to promote rehabilitation and resolve grazing concerns on transitory grazing land.

8) Consider the potential for conflict between grazing use on public land and adjoining land uses in the design and implementation of a grazing management plan.

Facilitating the Management of Livestock Grazing

1) The use of practices to facilitate the implementation of grazing systems should consider the kind and class of animals managed, indigenous wildlife, wild horses, the terrain and the availability of water. Practices such as fencing, herding, water development, and the placement of salt and supplements (where authorized) are used where appropriate to:

a) promote livestock distribution;

b) encourage a uniform level of proper grazing use throughout the grazing unit;

c) avoid unwanted or damaging concentrations of livestock on streambanks, in riparian areas and other sensitive areas such as highly erodible soils, unique wildlife habitats, and plant communities; and

d) protect water quality.

2) Roads and trails used to facilitate livestock grazing are constructed and maintained in a manner that minimizes the effects on landscape hydrology; concentration of overland flow, erosion and sediment transport are prevented; and subsurface flows are retained.

Accelerating Rangeland Recovery

1) Upland treatments that alter the vegetation composition of a site, such as prescribed burning, juniper management, and seedings or plantings must be based on the potential of the site and should:

a) retain or promote infiltration, permeability, and soil moisture storage;

b) contribute to nutrient cycling and energy flow;

c) protect water quality;

d) help prevent the increase and spread of noxious weeds;

e) contribute to the diversity of plant communities, and plant community composition and structure;

f) support the conservation of threatened and endangered, other Special Status species and species of local importance; and

g) be followed up with grazing management and other treatments that extend the life of the treatment and address the cause of the original treatment need.

2) Seedings and plantings of nonnative vegetation should only be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the standards; or where nonnative species are essential to the functional integrity of the site.

3) Structural and vegetation treatments and animal introductions in riparian and wetland areas must be compatible with the capability of the site, including the system's hydrologic regime, and contribute to the maintenance or restoration of properly functioning condition.

Rangelands Glossary

Appropriate action – implementing actions pursuant to subparts 4110, 4120, 4130 and 4160 of the regulations that will result in significant progress toward fulfillment of the standards and significant progress toward conformance with the guidelines. (see "Significant progress")

Assessment – a form of evaluation based on the standards of rangeland health, conducted by an interdisciplinary team at the appropriate landscape scale (pasture, allotment, subwatershed, watershed, etc.) to determine conditions relative to standards.

Compaction layer – a layer within the soil profile in which the soil particles have been rearranged to decrease void space, thereby increasing soil bulk density and often reducing permeability.

Crust, Abiotic – (physical crust) a surface layer on soils, ranging in thickness from a few millimeters to a few centimeters, that is much more compact, hard and brittle, when dry, than the material immediately beneath it.

Crust, Biotic – (microbiotic or cryptogamic crust) a layer of living organisms (mosses, lichens, liverworts, algae, fungi, bacteria, and/or cyanobacteria) occurring on, or near the soil surface.

Degree of function – a level of physical function relative to properly functioning condition commonly expressed as: properly functioning, functioning-at-risk, or nonfunctional.

Diversity – the aggregate of species assemblages (communities), individual species, and the genetic variation within species and the processes by which these components interact within and among themselves. The elements of diversity are: (1) community diversity (habitat, ecosystem); (2) species diversity; and (3) genetic diversity within a species; all three of which change over time.

Energy flow – the processes in which solar energy is converted to chemical energy through photosynthesis and passed through the food chain until it is eventually dispersed through respiration and decomposition.

Ground water – water in the ground that is in the zone of saturation; water in the ground that exists at, or below the water table.

Guideline – practices, methods, techniques, and considerations used to ensure that progress is made in a way and at a rate that achieves the standard(s).

Gully – a channel resulting from erosion and caused by the concentrated but intermittent flow of water usually during and immediately following heavy rains.

Hydrologic cycle – the process in which water enters the atmosphere through evaporation, transpiration, or sublimation from the oceans, other surface water bodies, or from the land and vegetation, and through condensation and precipitation returns to the earth's surface. The precipitation then occurring as overland flow, streamflow, or percolating underground flow to the oceans or other surface water bodies or to other sites of evapotranspiration and recirculation to the atmosphere.

Indicators – parameters of ecosystem function that are observed, assessed, measured, or monitored to directly or indirectly determine attainment of a standard(s).

Infiltration – the downward entry of water into the soil.

Infiltration rate – the rate at which water enters the soil.

Nutrient cycling – the movement of essential elements and inorganic compounds between the reservoir pool (soil, for example) and the cycling pool (organisms) in the rapid exchange (i.e., moving back and forth) between organisms and their immediate environment.

Organic matter – plant and animal residues accumulated or deposited at the soil surface; the organic fraction of the soil that includes plant and animal residues at various stages of decomposition; cells and tissues of soil organisms, and the substances synthesized by the soil population.

Permeability – the ease with which gases, liquids or plant roots penetrate or pass through a bulk mass of soil or a layer of soil.

Properly functioning condition – *Riparian/wetland*: adequate vegetation, landform, or large (coarse) woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid in floodplain development; improve floodwater retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse channel and ponding characteristics to provide the habitat and water depth, duration and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The result of interaction among geology, soil, water, and vegetation. *Uplands:* soil and plant conditions support the physical processes of infiltration and moisture storage and promote soil stability (as appropriate to site potential); includes the production of plant cover and the accumulation of plant residue that protect the soil surface from raindrop impact, moderate soil temperature in minimizing frozen soil conditions (frequency, depth, and duration), and the loss of soil moisture to evaporation; root growth and development in the support of permeability and soil aeration. The result of interaction among geology, climate, landform, soil, and organisms.

Proper grazing use – grazing that, through the control of timing, frequency, intensity, and duration of use, meets the physiological needs of the desirable vegetation, provides for the establishment of desirable plants and is in accord with the physical function and stability of soil and landform (properly functioning condition).

Reference area – sites that, because of their condition and degree of function, represent the ecological potential or capability of similar sites in an area or region (ecological province); serve as a benchmark in determining the ecological potential of sites with similar soil, climatic, and landscape characteristics.

Rill – a small, intermittent water course with steep sides; usually only a few inches deep.

Riparian area – a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Land along, adjacent to, or contiguous with perennially and intermittently flowing rivers and stream, glacial potholes, and shores of lakes and reservoirs with stable water levels are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil. Includes, but is not limited to, jurisdictional wetlands.

Significant progress – when used in reference to achieving a standard: (actions), the necessary land treatments, practices and/or changes to management have been applied or are in effect; (rate), a rate of progress that is consistent with the anticipated recovery rate described in plan objectives, with due recognition of the effects of climatic extremes (drought, flooding, etc.), fire, and other unforeseen naturally occurring events or disturbances. Monitoring reference areas that are ungrazed and properly grazed may provide evidence of appropriate recovery rates. (See Proper Grazing Use)

Soil density (bulk density) – -the mass of dry soil per unit bulk volume.

Soil moisture – water contained in the soil; commonly used to describe water in the soil above the water table.

Special Status species – species proposed for listing, officially listed (threatened/endangered), or candidates for listing as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act; those listed or proposed for listing by the State in a category implying potential endangerment or extinction; those designated by each BLM State Director as sensitive.

Species of local importance – species of significant importance to American Indian populations (e.g., medicinal and food plants).

Standard – an expression of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems.

Uplands – land that exists above the riparian/wetland area, or active floodplains of rivers and streams; those lands not influenced by the water table or by free or unbound water; commonly represented by toe slopes, alluvial fans, and side slopes, shoulders, and ridges of mountains and hills.

Watershed – an area of land that contributes to the surface flow of water past a given point. The watershed dimensions are determined by the point past, or through which, runoff flows.

Watershed function – the principal functions of a watershed include the capture of moisture contributed by precipitation; the storage of moisture within the soil profile, and the release of moisture through subsurface flow, deep percolation to ground water, evaporation from the soil, and transpiration by live vegetation.

Wetland – areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Appendix R
Effects of Intensity and Season of Grazing

Introduction

Livestock impacts to vegetation resources, both negative and positive, occur due to defoliation and browsing, as well as the physical impacts associated with the presence of livestock. Although livestock grazing in desert steppe communities is seldom necessary to meet vegetation management objectives, negative impacts can be maintained within acceptable limits with implementation of appropriate management actions. Many successful livestock grazing strategies have been developed to achieve specific ecological or management objectives. The effectiveness of meeting objectives when implementing a given strategy depends on a number of factors including the associated resource values present, ecological characteristics present, physical characteristics present, and livestock management practices (Cook 1971; Heady 1975; Lacock and Conrad 1981; Holochek et al. 1989). General trends may hold true in the relative effectiveness of different grazing strategies to meet specific management objectives, but site-specific strategies are required to integrate the interactions of unique features present within a pasture. Though the ecological consequences of implementing a given grazing strategy occur at the pasture level or smaller, livestock operations dependent on public land forage resources require grazing schedules which support animals on public and private land throughout the year.

The consequences of short-term impacts of livestock use, both in upland and riparian communities, are related to the season in which livestock graze a vegetation community as well as the intensity and duration of use in a given year. Long-term consequences result from the sequence of annual use a vegetation resource receives, the severity of use, the competitive response of individual vegetation species to selective grazing or browsing by herbivores, and the resultant changes to community composition. Season and intensity of livestock grazing use in riparian communities, as well as in upland communities, has been found by a number of authors to affect riparian function and the attainment of other riparian-related objectives (Elmore 1991; Elmore and Kauffman 1993; Chapman 1987; Belsky et al. 1997; Kinch 1989; Myers 1987; and Platts 1989). Periodic opportunities for recovery of health and vigor and for recruitment of new individuals into upland and riparian communities are also required to maintain or improve vegetation conditions for the amenity values of current and potential vegetation resources as well as commodity production.

Intensity of Use

Short-term impacts to vegetation resources are the result of the combined utilization levels, the season of use, and the duration of use. For the purposes of analysis, light utilization is defined as up to 40 percent, moderate utilization is defined as from 41 to 60 percent, and heavy utilization is defined as 61 percent and greater. Generally, the vigor of key herbaceous species can be sustained with light and moderate utilization, while heavy utilization reduces photosynthetic tissue below levels needed to maintain root reserves, diminishing the vigor of key species. However, the timing of grazing use relative to plant phenology and the occurrence of repeat grazing are usually considered more important factors affecting the health and vigor of key species as well as changes to vegetation community composition. Light and moderate utilization during periods when plants are withdrawing reserves from roots for growth, during regrowth, or during seed formation will impact herbaceous species greater than the same level of utilization during periods when the plant is not actively growing. Additionally, the composition of a vegetation community, as it relates to the relative palatability of species present, will affect measured utilization. Long-term impacts of moderate to heavy utilization will also be dependent on the individual species' ability to maintain health and vigor and remain competitive with livestock use. Though stocking rates are established to limit utilization to light or moderate levels, factors affecting livestock distribution will cause some areas where animals tend to concentrate to be utilized heavy while other areas remain unused or only slightly used.

The intensity of livestock use will also affect other resource values, as well as the ability to meet management objectives as a result of standing vegetation material and ground cover remaining after use. As utilization levels are increased, canopy cover of grazed and browsed plants declines. Additionally, deposition of protective plant litter to the soil surface and incorporation of litter into the soil is decreased. As a result, increased utilization can reduce cover of bare ground by vegetation material and litter, increase puddling of clay soils by raindrop impact, reduce rates of infiltration of precipitation, and reduce permeability and moisture storage of soils. Excessive utilization levels can contribute to increased overland flow of precipitation and snowmelt, soil erosion, siltation of streams, and a decline in surface water quality affecting beneficial uses.

Season of Use

Livestock impacts to public land resources are dependent on the season of use as it relates to timing of grazing during the growth cycle of plants (see Table R-1), spacial and seasonal conflicts with annual life cycles of wildlife species, physical condition of resources, and other factors. All dates referenced are approximations dependent on elevation and climatic conditions and need to be interpolated on a site-specific basis. Analyzed seasons overlap due to variation in the growing conditions between years and a lack of clear seasonal divisions in anticipated impacts to existing or potential resource values. Thus, impacts resulting from livestock use early or late during any season may also be accurately define by described impacts during the proximate season based on those variables.

Winter (November 1 to March 1)

Upland herbaceous plants are mostly dormant during the winter season of use with the exception of some photosynthesis by new growth after fall and winter precipitation and during warming weather trends, primarily on south exposed slopes. Forage quality of cured standing herbaceous vegetation is moderate to low, improving when mixed with new growth or browse from palatable shrubs. Light to moderate utilization of standing cured herbaceous vegetation is not detrimental to health and vigor of plants. Light to moderate defoliation of new growth usually is not detrimental to maintenance of health and vigor of herbaceous species since soil moisture will be available for spring and early summer growth, regrowth, and completion of the annual cycle prior to soil moisture depletion. Grazing of fall sprouting annual species may reduce competition with desirable perennial herbaceous species during the following growing season. Light to moderate utilization levels will retain adequate standing material and litter for soil protection from wind erosion, rainfall impact, and late winter and spring runoff. Heavy utilization levels will expose the soil surface to these negative impacts, especially on sites with marginal potential to produce a reasonable vegetation cover and in years with limited growth of protective vegetation cover. The potential for repeated grazing of localized areas, resulting in heavy utilization, is present with severe weather conditions and snow accumulation reducing livestock distribution. Negative impacts intensify on palatable shrub species when snow accumulation makes herbaceous species unavailable. Livestock management actions to maintain animal distribution are oftentimes limited by weather and accessibility.

Winter use is usually the least detrimental to soils and to dormant riparian herbaceous and woody vegetation. Herbaceous riparian species are mostly dormant in this season with some active photosynthesis occurring during warming trends when plants are free of snow and ice cover. During these fair weather periods, dormant woody riparian species may be used to some degree; therefore, may be subject to live twig growth being removed. Riparian communities tend not to be used by livestock during moderate weather conditions where cold air drainage settles into low-lying areas throughout the majority of the winter. Dramatic recovery rates have occurred in riparian areas when cold drainage patterns and/or the

Table R-1. Approximate Growth Stage Dates for Key Species.

Species	Start of Growth	Peak of Flowering	Seed Ripe	Dormancy	Start of Growth	Peak of Flowering	Seed Ripe	Dormancy
		4,000 feet elevation				**4,700 feet elevation**		
Bluebunch wheatgrass	03/15	06/15	07/15	08/15	03/25	06/25	08/15	09/01
Idaho fescue	04/01	07/01	08/01	09/15	04/05	07/01	08/15	10/01
Crested wheatgrass [1,2]	03/10	06/10	08/01	09/01	03/15	06/10	08/01	09/01
Squirreltail	03/25	06/01	07/01	08/01	03/25	06/01	07/01	08/01
Thurber's needlegrass	03/25	06/15	07/15	09/01	04/01	06/15	07/15	09/01
Sandberg's bluegrass [2]	03/10	04/15	05/15	06/15	04/01	05/05	06/15	07/15
Bitterbrush [3]	04/10	06/05	07/30	11/01	04/10	06/05	09/15	11/01
		6,000 feet elevation				**7,500 feet elevation**		
Bluebunch wheatgrass	04/25	07/15	08/15	09/15	05/10	07/20	09/01	10/15
Idaho fescue	05/10	07/20	09/01	10/01	05/20	07/25	09/10	10/15
Crested wheatgrass [1,2]	N/A [4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Squirreltail	05/01	06/25	08/01	09/01	05/01	06/25	08/01	09/01
Thurber's needlegrass	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sandberg's bluegrass [2]	04/15	06/25	08/01	09/01	05/01	07/01	08/01	09/01
Bitterbrush [3]	05/01	07/01	08/20	11/01	05/01	07/01	10/01	11/01

[1] Key species for seeded areas.
[2] Key species for deer and antelope spring range.
[3] Key species for deer winter range.
[4] N/A = Plant does not occur at this elevation.

availability of alternate livestock water keep livestock away from streams. Where winter temperatures are moderate and cold air does not settle into low-lying areas, dormant woody riparian species can be negatively affected by browsing or trampling when livestock movement is restricted. The potential for livestock to concentrate in riparian communities to avoid severe weather conditions and attempt to drift to base property feeding grounds requires a high level of livestock management activity to avoid negative impacts to riparian vegetation resources at a time when access to public land is limited. Winter use provides rest during the growing period every year, promotes plant vigor, seed and root production, and seedling establishment. It may be the period of greatest use of browse species by both livestock and wildlife depending on temperatures, snow depth and duration, availability of other feed, animal concentration, forage/browse preference, and the extent of the woody plant community. A full understanding of expected livestock use patterns is necessary using this strategy or land use objectives may not be achieved. Utilization levels of herbaceous riparian species should be limited to maintain adequate material on streambanks and floodplains for protection during late winter and spring runoff. Heavy grazing during the winter can eliminate the streambank vegetation mat needed to prevent soil erosion from winter and spring floods or ice events. Throughout the winter, frozen soil and streambanks are more resilient to mechanical damage thereby minimizing streambank shear, thus resulting in little bank damage.

Areas suitable for winter grazing by livestock are, at times, also prime winter range for native large herbivores. Spacial conflicts for habitat and conflicts for limited forage are more common than at other times of the year. With snow cover of herbaceous species, livestock browse of shrub species may remove a valuable winter source of feed for wild herbivores. Viability of mountain shrub species as well as aspen recruitment may by jeopardized with winter use of these vegetation communities by livestock.

Spring (February 1 to May 1)

Early growth of herbaceous species, primarily cool season species, occurs with rising soil temperatures. Minimal impacts to plant vigor and health occur with light to moderate utilization of early growth when adequate soil moisture is available for regrowth and completion of the annual growth cycle. Moderate utilization, in years with minimal soil moisture available for regrowth after use, could deplete plant vigor and health, especially during periods of critical growth. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Additionally, heavy utilization can remove structural diversity valued for wildlife habitat. Use of palatable annual species early in this period may reduce competition with desirable native perennial species when grazing is removed and adequate soil moisture remains to complete growth cycles.

Early growth of herbaceous vegetation contains high water content and thus, when combined with leached old growth, has only moderate forage quality, improving after mid-March in most years. The hazard of compaction of wet soils with hoof action of livestock may be present, resulting in a reduction of infiltration and soil moisture holding capacity in fine-textured soils. Opportunities for good livestock distribution are present with more locations of available water and cool air temperature.

Riparian vegetation communities are less vulnerable to negative impacts from livestock use during this season for a number of reasons. Improving forage quality in upland communities will draw livestock from riparian communities as will available alternate water sources located outside streamside riparian communities. Spring use normally results in better livestock distribution between riparian and upland areas due to flooding of riparian areas and presence of highly palatable forage on the uplands. Also, cooler seasonal temperatures allow livestock to forage longer between visits to water sources. Opportunities for regrowth of herbaceous species are present through the remainder of the growing season. Most woody riparian species do not initiate growth until late spring, resulting in lower palatability than at other seasons of the year. If periods of use allow for adequate regrowth and do not correspond to the seasons of woody riparian species reproduction, grazing during this period can be very beneficial to riparian areas, especially in establishing woody plants. Conversely, this can be detrimental to upland grasses if grazing strategy results in utilization during the critical part (shoot elongation) of their growing season. Heavy defoliation and physical impacts by livestock can expose banks and floodplains to the hydraulic energy of high spring streamflow and peak runoff. Heavy use on finer textured soils in riparian areas with steep gradients may cause soil compaction, accelerated streambank losses or increased erosion rates. Hoof action can result in trampling of seed and liter into wet soil, although on some saturated soils, plants are more easily uprooted by grazing animals than would be possible later in the year. Care must be taken to prevent streambank hoof shearing and to leave adequate carryover vegetation for bank protection and silt filtering during spring runoff.

Wild native herbivores typically reach their lowest physical condition during this period, especially in years with heavy snowfall and limited forage availability. As a result, the potential for competition between livestock and wildlife species early during spring use is great on winter ranges. Activities associated with livestock management during this period can also increase stress to wildlife species, especially within areas of raptor nesting habitat.

Upland Growing Season (April 1 to July 15)

Upland plants are actively growing, removing carbohydrates from roots and crowns for early growth, regrowth, and seed formation. Herbaceous plants are susceptible to defoliation impacts as a result of the depletion of carbohydrates in roots and crowns, especially with moderate to heavy utilization, repeated grazing, and/or frequent growing season use. Grass species are especially susceptible to impacts from defoliation during seed formation and seed stalk elongation, due to the increased withdrawal of carbohydrate reserves from roots and crowns. Opportunities for regrowth and completion of the annual growth cycle after defoliation are limited, especially in years of below average precipitation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with the grazing pressure of more large herbivores. Soil compaction from the physical presence of livestock remains a concern with moist soils, especially in areas with shallow and fine-textured soils. Upland shrub species reach maximum growth withdrawing shallow soil moisture early and deeper water reserves as the season progresses. Opportunities for good livestock distribution during the early portion of this season are present with more locations of available water, high palatability of high quality forage, and cool air temperature. Repeated use during the growing season can be expected to reduce vigor and health of desirable perennial herbaceous species and lead to trends away from desired future conditions.

Riparian vegetation communities initiate active growth during this season, especially during the later portion. Impacts to riparian resources are minimal with light to moderate utilization levels on herbaceous and woody species and minimal physical impacts. Livestock begin to concentrate in riparian vegetation communities as the season progresses for higher quality forage, browse, water, and shade with higher ambient temperatures. Opportunities for regrowth of herbaceous vegetation following use remain throughout the summer with available moisture in riparian soils. Desirable woody riparian species become vulnerable to impacts from moderate to heavy use mid-way through this season when active growth is initiated. Heavy levels of utilization or high levels of physical impacts can expose banks and floodplains to impacts from high streamflows during late spring and summer flooding.

Summer (July 1 to October 31)

A deferred season of use provides for livestock grazing after most of the upland species have reached seed-ripe stage and replenished carbohydrate reserves. Most upland plants, including native and introduced bunchgrass species, have completed their annual growth cycles and have entered senescence. As a result, upland communities have declining forage quality and lower palatability to wildlife and domestic herbivores. Livestock will tend to turn to palatable browse species, especially when herbaceous utilization levels become heavy late during this period, to maintain a given level of nutrition when mixed with lower quality herbaceous feeds. With the onset of senescence, native upland vegetation communities are less susceptible to negative impacts of light to moderate defoliation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with more large herbivores. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Livestock distribution away from water sources is limited by high ambient temperatures increasing the need for frequent watering and causing cattle to graze primarily during the evenings and throughout the night, while becoming less active during daylight hours. Localized impacts from defoliation and the physical presence of livestock intensify, especially near water sources and other areas of concentrated activity. Additionally, nutrient concentration will occur in areas of concentrated livestock activity.

Riparian vegetation species, both woody and herbaceous are actively growing with a sustained source of water available for continued photosynthesis. The potential for regrowth of herbaceous species remains through most of the summer, while soil moisture and temperatures are maintained. Regrowth of woody riparian species, especially mock orange, is limited after moderate to heavy use, especially late in the period. Forage value and palatability are high from standing riparian herbaceous and woody growth. The potential for poor livestock distribution, away from riparian communities, exists as the availability of stock water in upland communities declines, forage value in upland communities declines, and with higher ambient temperatures. Livestock tend to concentrate in riparian vegetation communities for water, high quality green forage, and shade when intensive livestock management is lacking. Use during this period typically provides no rest during the growing period for plant vigor, reproduction, or liter accumulation and generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion. Since rest is never provided, riparian plants do not replace food reserves in roots; seed may or may not be produced. Concentration of livestock in riparian areas results in heavy use of woody and herbaceous riparian species. Impacts to riparian values are typically greater during summer and early fall use than at other seasons of the year.

Competition between wildlife species and livestock is usually minimal when summer utilization levels are maintained at light to moderate levels. Those wildlife species that are mobile tend to inhabit portions of the range less used by livestock, while those less mobile species tend not to be significantly impacted so long as utilization levels and related management activities do not disrupt habitat and security.

Fall (September 15 to December 15)

Herbaceous upland plants remain senescent with minimal new growth and some regrowth during warming conditions when soil moisture has been replenished by fall precipitation. Upland herbaceous health and vigor is not impaired with light to moderate utilization of cured standing materials. Heavy to severe use may expose soils to erosion from wind and water for an extended period through the initiation of spring growth. Cooler ambient temperatures, with some fall regrowth of upland herbaceous species, may provide for better livestock distribution than during summer. Forage quality of upland herbaceous species remains low, though improving with the initiation of new fall growth. Livestock will retain a percentage of palatable browse species in their diets, when available, to maintain a given level of nutrition by combining it with lower quality herbaceous feeds.

Riparian herbaceous and woody species enter dormancy with cool temperatures and freezing conditions. Opportunities for limited livestock grazing of pastures containing riparian values are present so long as utilization levels on herbaceous and woody species do not impair riparian function with peak streamflows. Moderate to heavy use of riparian herbaceous species, with little opportunity for regrowth to facilitate sediment retention, may expose banks and floodplains to hydraulic forces of high streamflow during winter and spring runoff. The potential for improved livestock distribution, away from riparian communities, is greater than during summer use, though less than during spring use. During years with extended summer heat and drought, livestock water may be limited to riparian communities. Use during this season can be detrimental to riparian vegetation if heavy utilization of woody species occurs because temperatures are warm, fall green-up has not occurred, or utilization is not closely monitored. Fall grazing usually allows for less soil compaction in riparian areas; although streambank damage may be considerable from hoof action shearing if excessive fall precipitation occurs. Livestock impacts to riparian vegetation are directly related to the intensity of livestock management practices implemented by operators.

Livestock's use of big game winter range can limit the availability of both herbaceous and browse species for wildlife during subsequent winter periods as identified in the section on winter use. Competition between livestock and wildlife species increases with greater levels of utilization and the resultant increase of browse species in livestock diets.

Seasonlong

Seasonlong grazing of a pasture generally begins during the growing season and extends to the end of the period of authorized use, typically into the fall period. Many of the impacts associated with use during the growing season occur with seasonlong use. Additional impacts occur from localized livestock concentration late in the season as sources of water diminish, as forage quality in upland communities declines, and as ambient temperatures rise. The effects of seasonlong grazing on species composition are largely dependent on the degree of utilization on the key species. Although the proposed stocking rates are designed to achieve moderate levels of utilization on most areas, factors such as terrain, location of fences and water, and vegetation types available, prevent uniform patterns of grazing. Heavy grazing will inevitably occur in some areas while light utilization will occur in others. A trend away from desired future conditions is expected in areas receiving moderate to heavy utilization on an annual basis, especially when that use occurs during critical growing periods.

Livestock tend to concentrate in riparian communities from summer on, when these areas are available. Decreases in woody and herbaceous riparian species are expected to occur in streamside riparian vegetation communities accessible to livestock under seasonlong use. Livestock prefer green herbaceous and new growth of woody species within riparian communities as upland communities dry and loose forage quality in late summer. This strategy typically provides no rest during the growing period for plant vigor, reproduction, or liter accumulation. It generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion.

No pastures in the planning area are scheduled for yearlong (March 1 through February 28) grazing by domestic livestock.

Exclusion (No Scheduled Livestock or Wild Horse Use)

Defoliation of herbaceous and shrub species is limited to that which occurs from insect and native herbivore use. Except in instances when native herbivore numbers are high, upland utilization levels during the growing season and dormant seasons are light. In any year, small areas of concentrated native herbivore use may have moderate to high utilization levels. Residual standing herbaceous material and litter accumulation is greater than with scheduled use by livestock or wild horses in any season. Soil protection from rain impact is high, limiting erosion and improving soil structure and infiltration. The initiation of herbaceous growth with warming spring soil temperatures may be slightly delayed due to greater interception of solar radiation by standing and down litter.

The complete elimination of livestock and wild horses from riparian vegetation communities in many cases provides for a more rapid rate of recovery of both herbaceous and woody components than with scheduled use in any season. Residual herbaceous material and a diverse age structure of woody species will protect streambanks during peak flows of all seasons. In the absence of consideration of the ecological linkages between upland, riparian, and aquatic communities, potential rates of recovery of riparian communities may be limited when upland management plans are not designed to restore and protect the entire landscape.

Grazing Schedules

Livestock grazing schedules are implemented to provide opportunity for unacceptable resource conditions to improve, to maintain resource values which are consistent with the DRFC and other management objectives, or to avoid unacceptable impacts to resource values or conflicts between uses of public land resources. Anticipated short and long-term impacts from annual use of a pasture during any one season are presented above. Though some established grazing schedules provide for annual use of a pasture during one specified season, more often the mix of management objectives associated with a given pasture can better be met by varying the season of use over a repeating cycle of two or more years. Multiyear grazing schedules are primarily developed with varied seasons of use through an established rotation to allow desirable vegetation species the opportunity to regain vigor and health for future growth, productivity, and sustainability of resource values. Similarly, opportunities for recovery from grazing impacts to other resources, specific to a season of use, may be provided by varying the season in which livestock graze a pasture. Long-term and cumulative impacts of implementing a grazing scheme will define trend toward future vegetation communities and resource conditions.

Conversely, constraints necessary to meet multiple management objectives may limit opportunities for grazing use to one short period annually, or no scheduled use in some years, to ensure that all management objectives are met. Examples include the compounding effects of objectives to improve riparian function or meet other riparian management objectives while maintaining upland stability and function. Though scheduled use during the upland growing season annually may be compatible with objectives to improve riparian function, health and vigor of desert steppe vegetation communities can seldom be improved or maintained with annual growing season defoliation. Similarly, scheduled deferment of grazing use until after seed-set may be compatible with meeting upland vegetation management objectives while not maintaining healthy riparian vegetation communities which support proper functioning condition. As a result, the combined objectives may further constrain opportunities for varied seasons of use.

Speciality Pastures

Construction of fences and use of other barriers to livestock movement may be utilized to create speciality pastures and implement grazing schedules consistent with meeting specific management objectives when resource values, such as riparian vegetation communities, are present in only a portion of an existing pasture. Development of speciality pastures is applicable in areas where resource values encompass a small enough area to justify fencing and to manage them separately from areas that are solely comprised of upland vegetation communities and few other resource values. Speciality pastures may continue to be grazed while meeting objectives or excluded from livestock use. Construction of fences to create corridor or riparian pastures allows riparian recovery or maintenance while allowing grazing of other uplands sites to occur with grazing strategies providing for more livestock use. Riparian pastures are normally areas of rangeland containing both upland and riparian vegetation communities large enough to support some livestock use while managed to attain riparian, water quality, and/or aquatic objectives, as opposed to stream side pastures created through corridor fencing. Total rest of riparian pastures is required at times during the first few years of corrective management of a deteriorated riparian area where the objective includes the establishment of shrub or tree growth above the reach of livestock. As riparian vegetation within riparian pastures regains vigor and productivity, available forage for livestock use may often be increased while continuing to meet management objectives. Corridor pastures are generally excluded from livestock use, or used only for trailing purposes, since the areas enclosed are usually too small and narrow for proper grazing.

Grazing Rotations

Most multiyear grazing schedules can be defined as either a deferred-rotation or rest-rotation schedule. Both types of grazing schedules were designed primarily to promote plant vigor, seed production, seedling establishment, root production, and litter accumulation for herbaceous plants in upland ecosystems. Deferred rotation grazing schedules provide for one or more years of grazing use after seed-set, following one or more years of growing season use. In its simplest form, a deferred rotation grazing schedule within a pasture provides for a 2-year rotation cycle with 1-year of use during the critical period of plant growth followed by 1-year of deferment of use until after the growing season. More conservative schedules provide for a higher proportion of deferment than years of use during the period of active growth. Rest-rotation schedules allow for similar opportunities for recovery with one or more years of the grazing rotation in which no use is scheduled. Caution should be implemented to ensure that higher levels of utilization during use periods of a pasture do not preclude meeting management objectives while providing for rest in other pastures. At moderate utilization levels, either rest-rotation or deferred-rotation grazing systems can allow for adequate recovery of upland herbaceous root growth and associated carbohydrate storage following the impacts of critical season defoliation. The number of years of rest or deferment necessary to meet vegetation management objectives is dependent on a number of factors including resource conditions, soil and climatic factors, and the intensity of grazing use. With an increase in the proportion of years of rest or deferred use to the number of years of use during the critical season, the opportunity for recovery and maintenance of plant health and vigor is improved. Recovery following heavy use during the critical growing season may require a substantial number of rest or deferment years to provide adequate opportunities for recovery of health and vigor, especially when growth conditions are poor or if the vegetation resource is in poor ecological condition.

Most rest-rotation and deferred-rotation grazing schedules, designed for the physiological needs of herbaceous upland plants, can be successful within wide, low gradient sedge, rush, and grass-dominated riparian sites, provided utilization levels in riparian communities are maintained within acceptable limits. These strategies have been found to maintain species diversity and productivity of meadow systems when use is deferred in these areas until after seedripe. This promotes seed and root production, seedling establishment, and total growing period rest for each pasture every year. The need for additional livestock management may be necessary to maintain livestock distribution. Riparian herbaceous species having a natural potential to regrow following use provide for recovery and maintenance of resource values in years of the rotation when grazing occurs during the growing season. Caution in years of mid to late season use should ensure that cover necessary to buffer erosion from floods and ice is maintained and to trap sediment during high flow events. Similarly, in years of the rotation when grazing occurs during a season with high soil moisture, caution should be implemented to prevent trampling and shear damage to banks.

Rest rotation and deferred-rotation schedules are usually inappropriate for shrub-dominated riparian areas, especially in the primary stages of willow establishment and development. Establishment and growth of woody riparian species, which is attained in years when the pasture is rested or during a season of use compatible with progress toward attaining riparian objectives, may be nullified in the years of use when grazing occurs during a period not consistent with maintenance or improvement of riparian values. Maintenance of established riparian communities containing a woody component may ultimately result in a population of only mature decadent stands of woody species, providing no ongoing replacement of younger stands. When these schedules are implemented, levels of use of woody riparian species must be monitored because utilization occurring during the summer months has been found to limit woody plant succession on gravel bars and other scoured areas along stream channels. Heavy utilization during late grazing periods can lead to removal of vegetation needed to protect streambanks from ice and water scouring.

Improvement of vegetation composition toward desired conditions may require recruitment of new individuals of desired species through seeding, planting or natural regeneration from vegetation materials on site. Establishment of desirable seedlings into a vegetation community may require a sequence of rest and/or deferment years to avoid defoliation and physical impacts of livestock presence. Similarly, recruitment of new shoots of desirable woody species in upland and riparian may require more than 1-year of rest to establish old wood, which is less palatable, and to allow growth above the reach of domestic herbivores. Removal of livestock from riparian vegetation communities may be required to allow these communities to recover herbaceous and woody species composition adequate to attain functioning condition. Upon improvement to functioning condition, a grazing schedule consistent with maintaining riparian function may be implemented.

Generally within desert steppe vegetation communities, no more than one period of use of a given pasture is planned in any 1-year's grazing schedule. An exception is spring/fall use in which livestock are removed in the spring while sufficient soil moisture is available for regrowth. Fall use occurs after most vegetation species have completed their growth cycle and are dormant. This schedule is used primarily within seedings of nonnative perennial bunchgrasses to maintain productivity and availability of species adapted to grazing use.

Appendix S Standard Implementation Features and Procedures for Rangeland Improvements

Rangeland projects and improvements are proposed and completed as a portion of adaptive management implementation to help reduce resource management conflicts and to achieve multiple-use management objectives. The following standards and design elements will be adhered to in constructing rangeland improvements within the planning area. Design elements have been standardized over time to mitigate impacts encountered during rangeland improvement installation.

- Preparation of site-specific NEPA documentation of analysis of the proposed project (EIS, EA, categorical exclusion, or administrative determination) will be required prior to implementation. Proposed rangeland improvements may be modified or abandoned or an EIS may be required if the analysis indicates that significant adverse environmental impacts cannot be avoided or mitigated.

- A wilderness inventory of public land within the planning area has been completed as required by FLPMA. As a result of this inventory, certain Federal land in the planning area was designated as WSAs. All rangeland management activities, including project development and maintenance, in WSAs would be consistent with BLM's IMP for Lands under Wilderness Review unless and until the area is removed from the study category (either wilderness designation or the WSA is released by Congress). Impacts of actions proposed within WSAs would be assessed, before implementation of any management activities, to ensure that they meet policy.

- Every effort will be made to avoid adverse impacts to cultural resources. A cultural resources inventory will be completed prior to any surface-disturbing activities associated with the implementation of proposed rangeland improvements. This will be part of the preplanning steps of a project and the results will be part of the NEPA compliance prior to implementation. If significant cultural values are identified, mitigating actions may include relocation, redesign or abandonment of the project. However, where mitigation is not possible, the BLM will consult with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. This is in accordance with the programmatic memorandum of agreement by and between the BLM, the Council, and the National Conference of State Historic Preservation Officers, dated January 14, 1980, which sets forth a procedure for developing appropriate mitigative measures, in compliance with Section 106 of the National Historic Preservation Act (1966). Management adherence to agreed upon mitigative measures will be implemented in compliance with these regulations.

- If a project could potentially affect any listed or proposed threatened or endangered species or its critical habitat, consultation with the USFWS will be initiated (Endangered Species Act of 1973, as amended). The project may be modified, relocated, or abandoned in order to obtain a "no adverse effect" determination. If a project may contribute to the need to list a Federal candidate or Bureau sensitive species, a technical assistance request will be made to the USFWS. Any disturbances to Bureau assessment and/or tracking species will be documented. Mitigating actions to minimize impacts to all Special Status species will be incorporated where practical and feasible.

- Projects which have the potential to adversely affect relevant or important values in ACECs would be evaluated to identify potential impacts. Proposed actions would be redesigned to avoid adverse impacts, appropriate mitigating actions would be required, or the proposed project would be abandoned to maintain the relevant and important values for which the ACEC was designated.

- Surface-disturbing activities associated with project implementation will be held to a minimum necessary to complete the project. Disturbed soil will be rehabilitated to blend into surrounding soil surfaces and vegetated as needed with adapted perennial species to stabilize soils and preclude invasion and dominance of undesirable and weedy species.

- Projects which manipulate vegetation composition, including seedings and woody species control projects, will be completed primarily to direct vegetation composition toward desired conditions and to enhance and sustain multiple-use values. The preferred method for control of woody species is burning with management ignited or natural ignited fire, but may include cutting, chaining, or spraying of herbicides. Vegetation treatment projects will be designed and implemented utilizing irregular patterns of treatment consistent with topography, VRM, and site potential. Design will provide optimum edge effect for visual quality and desirable landscape diversity for all values. Layout and design will be coordinated with interested publics, including ODFW.

- Seeding of herbaceous and shrub species will be accomplished primarily by use of rangeland drill or similar techniques to enhance the probability of seeding success. Broadcast seeding of herbaceous and shrub species will occur on small disturbed areas, rough terrain, and rocky areas where drilling is inappropriate. Proposed seeding within WSAs or RNAs would be addressed on a case-by-case basis in accordance with policies. Additionally, current and accepted technologies (including drilling, broadcast seeding, and planting of seedlings) will be implemented to ensure the success of establishment of desired species mixtures and attainment of desired future conditions within vegetation communities. Methods of establishment used will be determined on a site-specific basis during project planning. Seed mixtures will be determined on a site-specific basis to include perennial species adapted to climatic and edaphic conditions, based on the best available information from appropriate State and local rangeland and wildlife experts. Where rangeland drills are used, slopes will be drilled on the contour to minimize soil movement. All seedings, including those areas rehabilitated following wildland fire, will be deferred from livestock grazing for a minimum of two growing seasons and until seedlings have established vigor, to allow seeding establishment. Additional herbaceous production resulting from vegetation manipulation projects and fire will not be allocated for use until monitoring data support that it is available on a sustained basis.

- The existing road and trail system will be utilized to provide access for rangeland project construction and maintenance. If needed, unimproved trails and tracks may be developed to reach construction sites unless this action is inconsistent with the management of SMAs, then other means of access may be required. New trails and tracks would continue to be used for project maintenance. Any new authorized road construction would be in accordance with standard operating procedures and Best Management Practices (BMPs) for road construction.

- Normal maintenance of existing projects and new projects will occur, as consistent with original design, through the life of the plan in order to support authorized uses of public land. Maintenance can include activities such as replacement of pipeline sections, fencepost and wire replacement, cleaning of reservoirs within the original disturbance area, replacement of water troughs, cleaning and maintenance of spring boxes, cleaning or resetting of cattleguards, and maintenance of livestock handling facilities. While maintenance of existing facilities may occur in SMAs, there may be further mitigation actions required to ensure that values of these places are not impaired.

- A visual resource contrast rating procedure would be employed to minimize adverse impacts created by proposed projects on the landscape.

Additional design features are identified in the following discussion of the **individual types of improvements.**

- Reservoir development would involve the construction of pits and dams to impound surface water for livestock, wildlife, and other resource values. Rights to use water on public land associated with the construction of reservoirs and pits be acquired, perfected, maintained and administered under the substantive and procedural laws of the State of Oregon. Pits would be constructed in playas, dry lakebeds, and other natural depressions. Dams would be constructed in drainages. Water storage capacity of pits or reservoirs would generally be less than 2.0 acre-feet. Fill material to complete dam construction may come from the impoundment area or a borrow area outside the impoundment area. Excavated material from pits would be piled adjacent to the pit. Topsoil would be stockpiled to be used for rehabilitation of borrow areas and other areas stripped of soil. As consistent with resource objectives, reservoirs and pits may be excluded from livestock use through fencing or other means

- All State of Oregon water well drilling regulations would be adhered to, both in drilling and equipping. A safety devise would be installed on new power line transformers to prevent electrocution of raptors. Metal storage tanks would be painted to blend with the surrounding landscape. Consistent with VRM objectives of the area, wells and associated structures would be located where topographic features or vegetation would serve to screen associated structures and disturbances from the casual observer.

- Spring development would involve digging or drilling to intercept naturally occurring waterflow. Perforated pipe and/or collection boxes would be utilized to collect and divert water through a pipeline to troughs away from vegetation communities associated with spring areas. Usually, the spring source and trough overflow area would be fenced to prevent livestock grazing and trampling impacts to riparian vegetation communities. Water would be made available inside fenced spring developments for wildlife use. In those areas that receive recreation use, access may be provided via a style (stairs over a fenceline) or a walk-through devise specifically designed to preclude livestock passage.

- Pipelines will be constructed to convey water from wells, springs, reservoirs, and other water sources to troughs in areas lacking adequate water to maintain appropriate animal distribution. Troughs will usually be placed in upland vegetation communities less vulnerable to livestock impacts and soil compaction. Generally, 1 to 2-inch diameter plastic pipe would be buried with a pipe-laying equipment consisting of a modified ripper tooth mounted on a tractor. Pipelines would normally be buried to a depth adequate to protect the development, though seldom deeper than 30 inches. Where obstructions prohibit pipeline burial, the pipe may be laid on the ground surface and covered with borrow soil. At times, reservoirs and other storage facilities may be constructed along pipelines. Reservoirs associated with pipelines will normally be fenced to exclude livestock, while providing water for wildlife use. In the event of equipment failure, reservoirs may provide temporary emergency water for livestock. Access points to and escape routes from water troughs will be provided for birds and small mammals.

- Fences will be designed to develop a barrier to livestock movement, while minimally impeding wildlife movement. Established standards for fence construction on BLM land would be followed (BLM Manual Handbook H-1741-1). Design features would be developed specific to each proposed fencing project to accomplish the desired objectives while avoiding undesired impacts and controversy. Surface disturbance associated with fence construction and maintenance will be minimized. Though the canopy of vegetation along fencelines may be removed and scattered, no blading or scraping would be authorized to clear routes for fence construction. All fences would be consistent with the VRM class of the area. Gates would be located and constructed at appropriate locations to provide for livestock passage. Gates, and as appropriate cattleguards, will be located at road crossings to provide vehicular passage. Gates will be constructed adjacent to all cattleguards to provide passage by equipment which cannot cross cattleguards. Recreation access would be provided where fences are necessary in the vicinity of recreation sites.

- Wildlife guzzlers would be constructed in locations with limited availability of water for wildlife use, primarily lower elevation desert habitats. They would consist of an apron designed to collect precipitation, a buried storage tank, and associated pipeline arrangement for delivery of water to a trough available to birds, small mammals, and other wildlife species. Guzzlers would normally be fenced or designed to exclude livestock access. Projects would be designed to blend with the surrounding landscape and be consistent with VRM class of the area.

- Prescribed fire, both management ignited and natural ignitions, will be designed and implemented to manage woody species dominance and to meet other land use plan objectives. Projects would be designed to direct vegetation communities toward desired future conditions and to meet management objectives for wildlife, watershed function, and other resource values. Additionally, vegetation manipulation projects would be designed to provide and maintain vegetation and structural diversity and connectivity.

Appendix T
Catlow Conservation Agreement Management Direction and Analysis

This appendix contains additional background material and a detailed description and analysis of Management Action Number 3, under the Special Status Animals Species Objective 1.

Affected environment descriptions in the body of the RMP are the background for this appendix. For some resources, additional affected environment description is added here for the purpose of more clearly describing the environment within which the various alternatives are considered.

Affected Environment

Catlow Special Status Species

Catlow Valley redband trout (*Oncorhynchus mykiss ssp.*) is a recognized, though undescribed, subspecies of the more widespread rainbow trout. They are endemic to the Catlow Valley, known for their ability to survive highly variable conditions, and they are found in both stream and reservoir habitat within the ARA and the Hart Mountain National Antelope Refuge. Catlow Valley redband trout have occurred in Home, Threemile, Skull, and Rock Creeks. The most viable population in ARA is in Home Creek and a very small population is found in Skull Creek on private land. Threemile Creek contains a small population in the lower reaches of the creek on public land that is fenced and managed with the private land. The Rock Creek population is upstream of ARA on the Hart Mountain National Antelope Refuge. The Catlow Valley redband trout is one of several named populations of redband trout in Oregon closed basins for which a petition for listing under the Endangered Species Act was filed with the USFWS in 1997.

Catlow tui chub (*Gila bicolor ssp.*) is a small to medium-sized minnow, 2 to 4 inches long. It is a recognized, though undescribed, subspecies of the more widespread tui chub. Oregon State University's initial genetic analysis of the Catlow tui chub supports that it is a distinct subspecies, separate from tui chubs in adjacent basins. The Catlow tui chub inhabits reservoirs and small streams with variable currents and pool habitats. Endemic to the Catlow Valley, within the ARA, the Catlow tui chub has been found in public land reaches of Skull and Rock Creeks, with singular occurrences in the private land valley reaches of Home, Skull, and Threemile Creeks and Skull Creek Reservoir.

The limited distribution and small population sizes of these Catlow fish species prompted the August 1997 completion of the Catlow Valley Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy (Catlow Conservation Agreement). The purpose of the agreement is to expedite implementation of conservation measures needed for the continued existence and recovery of the species. This Conservation Agreement was entered into by the BLM; USFWS; Malheur National Wildlife Refuge; ODFW; and Roaring Springs Ranch, the private landowner in the habitat area. The habitat area includes about 118,000 acres. Approximately 61 percent, or 72,000 acres, is in private ownership and approximately 39 percent, or 46,000 acres, is public land managed by the BLM. The agreement focuses on the species habitat in the vicinity of the Catlow Rim and has two objectives. The first is to reduce and eliminate significant threats. The second is to enhance and/or stabilize specific stream reaches of occupied and unoccupied but historic habitat.

Most of the habitat for the species occurs in Home Creek (trout), Threemile Creek (trout), and Skull Creek (tui chub in lower reaches, trout in upper reaches). Most of this is privately owned, with BLM-managed land containing 5.6 of 21.9 miles on Home Creek, 1.96 of 1.96 miles on Threemile Creek, and 1.9 of 7.4 miles on Skull Creek. Most of the current suitable habitat occurs within the rimrock canyons of the streams, where topography and boulder armoring protect the stream and riparian areas.

Upper Home Creek and lower Skull Creek are low to moderate gradient areas with easy access for domestic livestock or wild horses. The habitat in these areas is impacted by higher than optimum water temperatures, occurrence of fine sediments in the substrates, inadequate overhanging bank and vegetative cover, inadequate frequency hydric herbaceous and woody species to stabilize streambanks, and low frequency of pool habitats. Improvement of the habitat has been occurring in the past several years, but further improvements are needed.

Management opportunities for the BLM to keep improving the habitat include continued adaptive domestic livestock grazing management, adjustments to wild horse numbers as needed to protect riparian resources, and upland vegetation restoration, including use of prescribed burns. These activities have all been part of the management set forth in the 1995 South Steens AMP, which addresses Home, Threemile, and Skull Creeks.

These management strategies and the Catlow Conservation Agreement have been included in a Water Quality Management Plan (WQMP) for the area. The WQMP has been submitted to the Oregon DEQ, where it has been approved. The DEQ recognizes the strategies of the South Steens AMP and Catlow Conservation Agreement as acceptable management, on a watershed basis, to move toward achievement of water quality standards and achieve compliance with Section 303d of the Clean Water Act.

The Conservation Agreement and additional conservation activities have involved coordination with the private landowner. The opportunities for habitat and species recovery could not have developed without the cooperation of the private landowner. The large amount of private land in the habitat area is an integral part to the success of the agreement. The domestic livestock grazing schedule, essential to the success of the agreement, encompasses public and private pastures as well as temporary use of pastures at the Malheur National Wildlife Refuge. The proposed grazing schedule establishes an overall management scheme that allows accelerated habitat improvements in the affected streams.

Events that have occurred since the implementation of the South Steens AMP have created the potential for negative effects to the fish habitat in Home and Threemile Creeks unless further measures are taken to improve resource management in the area. The BLM needs to address these effects to fully meet the objectives of the Catlow Conservation Agreement. In 1997, in compliance with a court order relating to domestic livestock grazing in the NWSR corridor, the BLM constructed the Blitzen protection fence creating a separate pasture, the Blitzen Pasture, for management of the South Fork Donner und Blitzen River (see Appendix N). The Blitzen Pasture also contains the uppermost reaches of Home Creek, which has 5.5 miles of fish habitat, all on private land, and an additional 9.6 miles (2.1 miles BLM) of nonfish habitat that are headwaters to the stream.

By eliminating livestock access to the South Fork Donner und Blitzen River, the Blitzen protection fence, however, reduces the amount of water available for domestic livestock use in the Steens Pasture, which contains the remainder of Home Creek and the headwaters of Threemile Creek. Because the perennial and reliable water available during the proposed season of use in the southern portion of Steens Pasture is now only in Home and Threemile Creeks, a shift is expected in domestic livestock use. The lower reaches of Home Creek, which has consistently been a concentration area for wild horses, is expected to receive additional pressure due to the construction of the Blitzen protection fence. The upper watersheds of these streams, containing low to moderate gradient meadow systems, may also be degraded by physical disturbance from increased concentration of domestic livestock and wild horse use.

The potential negative effects to fish habitat throughout these creeks, from increased concentration of domestic livestock and wild horse use in the Steens Pasture, place at risk 10.0 miles (46 percent) of public and private fish habitat in Home Creek and 1.96 miles (100 percent) of public fish habitat in Threemile Creek. There are some topographic barriers that reduce, but do not eliminate, livestock access to portions of these areas. The private landowner built an estimated 6 miles of fence between Home Creek and Threemile Creek to aid with domestic livestock control, but because the fence is only on private land, domestic livestock movement on BLM land around the west end of the fence is still possible. The need for BLM management action to improve domestic livestock control in the Steens Pasture to mitigate the effects of the Blitzen protection fence was identified in the Catlow Conservation Agreement.

Wilderness

For further information on the affected environment, please refer to the wilderness Affected Environment section of this document or the final Oregon BLM Wilderness EIS/Wilderness Study Report, October 1991.

The South Fork Donner und Blitzen River WSA is located 74 miles south of Burns (12 miles south of Frenchglen) in Harney County. The study area lies along the southern section of the Steens Mountain Loop Road, 7 miles east of State Highway 205.

The Home Creek WSA is located 63 miles south of Burns (13 miles south of Frenchglen) in Harney County, Oregon. The area lies adjacent to the county road which extends south of Oregon State Highway 205. The Home Creek WSA is adjacent to and west of, the South Fork Donner und Blitzen River WSA.

The WSAs are similar in character and are adjacent to each other. Further discussion and analysis of values and impacts for the two WSAs will be completed for the WSAs as a contiguous land unit. The two contiguous WSAs contain approximately 64,145 acres of public land (25,120 acres in Home Creek WSA and 35,850 acres in the South Fork Donner and Blitzen WSA). In addition, 1,440 acres of private land are located within the WSAs (120 acres in Home Creek WSA and 1,320 acres in the South Fork Donner and Blitzen WSA), as well as 1,705 acres of split-estate land (1,470 acres in Home Creek WSA and 1,705 acres in the South Fork Donner and Blitzen WSA). The major physical features of the WSAs include Catlow Rim, the plateau area, and three drainages of Dry Creek, Home Creek, and Threemile Creek.

Wilderness Values

Naturalness: These WSAs are in sufficiently natural to exceptionally natural condition to meet the criteria for WSA classification. The most outstanding natural areas are found within the canyons, river and creek drainage systems located in the WSAs. The river and large creeks contain riparian vegetation. Within these canyons is a diversity of plants and wildlife not normally associated with arid climates. Juniper and low sagebrush are the dominant vegetation in the study areas. A variety of grasses are also found within the area.

The WSAs provide habitat for wildlife species common to the mosaic of low sagebrush, western juniper, big sagebrush, and riparian habitat types. Fisheries habitat has been degraded significantly by heavy sediment loads coming from headwater streams, many of which are on private land.

The study areas contains 47 unnatural features: 26 reservoirs, 1 wildlife guzzler, 14 vehicle ways totaling 35 miles, 1 corral, 4 fences totaling 4 miles, and an old abandoned habitation. These developments influence approximately 2 percent of the WSAs. In addition there are tens of miles of existing, but nonfunctional fence, in the WSAs that was not accounted for in the original wilderness inventory. Developments placed after the original wilderness inventory occurred include the Penland fence, a 3.79 miles reconstruction of an existing nonfunctional fence and the court-imposed Blitzen River protection fence of 6.34 miles.

Solitude: Opportunities for solitude in these WSAs are outstanding with some limited impacts from riders in the area. These opportunities are enhanced by the large size of the area and diverse topography and vegetative screening. The deeper canyons of the South Fork Donner und Blitzen River and its tributaries, along with vegetative screening provided by juniper trees, also enhance opportunities for solitude.

Primitive and Unconfined Types of Recreation: Opportunities for primitive and unconfined types of recreation in these WSAs are outstanding. These activities include day hiking, backpacking, camping, fishing, and horseback riding, sightseeing and photography, and wildlife viewing. The primary attraction of the area is the South Fork Donner und Blitzen River. The river and its tributaries provide many different routes for hikes of varying degrees of difficulty. The streams and riparian vegetation provide pleasant surroundings in which to hike. Hunting for game species, deer and antelope, offers good opportunities.

Overall recreation use amounts to approximately 3,300 visitor days per year. Recreational use is currently increasing by approximately 2 percent per year (Final Wilderness EIS, 1989)

Supplemental Wilderness Values (Special Features) - Ecological: For ecological values the attributes include wildlife (high quality raptor nesting areas, sage grouse strutting ground, bighorn sheep, and redband trout). The other supplemental wilderness values identified are geology and scenic.

Wildlife

Twelve Special Status wildlife species that can be found in the area include California bighorn sheep, Pacific Townsend's big-eared bat, northern bald eagle, peregrine falcon, northern goshawk, Swainson's hawk, ferruginous hawk, western sage grouse, bobolink, western bluebird, Preble's shrew, and spotted frog. These species are ones, which for a variety of reasons, including limited distribution, habitat losses, population declines or some combination of factors, have been identified as requiring special attention when planning resource management.

There are five sage grouse leks (courtship strutting grounds) found in the Steens Pasture. Mule deer winter along Catlow Rim and summer at upper elevations. Antelope summer in the more open parts of the area and winter out of the area. California bighorn sheep use the Catlow Rim area yearlong. Rocky Mountain elk use the upper elevations during the summer and may winter in the area during open winters.

Preble's shrew are associated with the abundant cover found along some riparian areas, the edge of the aspen and mountain big sagebrush, and in mountain big sagebrush with an abundant herbaceous understory. Upland game birds found include mourning dove during spring and summer and valley quail near brushy drainages yearlong. Chukars are abundant near rocky rims at lower elevations along Catlow Valley. Common snipe inhabit areas around springs, wet meadows, and riparian areas.

The Catlow Rim provides as dense a breeding population of golden eagles as anywhere in the western United States, with usually 11 to 12 active aeries along 25 miles of the rim. Prairie falcons, red-tailed hawks, Swainson's hawk, ferruginous hawk, kestrels, great horned owls, and other raptors also nest along or near the rim. Goshawks, uncommon in the area, nest at upper elevation. Migratory bald eagles (Federal Threatened) and American peregrine falcon (Federal Endangered) pass over the area. Peregrine falcons have been observed near the mouth of Home Creek Canyon during the spring, but no aeries have been found.

Riparian areas provide habitat for over 150 nongame species and are important migratory paths for neotropical birds. Beaver are present in streams and provide instream structure through construction of dams which collect sediment. Spotted frog (Federal Candidate) have been verified in the Blitzen River drainage but have not been documented in Home Creek and Threemile Creek. The headwaters of the South Fork Donner und Blitzen River are approximately .5-mile from the headwaters of Home Creek and spotted frog could be in Home Creek and Threemile Creek.

Uplands provide habitat for a wide variety of species found in the low sagebrush, Wyoming big sagebrush, mountain big sagebrush, western juniper, aspen, and rock outcrops and rims.

Management Directives by Alternative for Resources

The following is a detailed description of alternatives of Management Action 3, of the Special Status Animal Species Objective 1, of Chapter 3.

Common to All Alternatives.

Construction of the Blitzen protection fence resulted in a shift in domestic livestock distribution to Home Creek and Threemile Creek in the Steens Pasture of the South Steens Allotment. The following alternatives describe fencing proposals and management alternatives to mitigate adverse effects on Catlow Valley redband trout and Catlow tui club habitat from the construction of the Blitzen protection fence. Those that include fence construction (Alternatives A, C, and D) also include removal of an equal amount of existing fence to assure that there is no net increase of fencing within the WSAs. The fences to be removed will be identified when the location of the proposed fences are fixed. Alternatives A, B, D, and E would include an estimated 20+ to 60+ miles of fencing depending on the alternative, that would be constructed along the private and public land boundaries in the area.

Fence construction on public land would be by hand and would require only a minimum disturbance of soil and vegetation. Steel posts would be pounded into the ground, each creating a hole 1 1/2-inches in diameter. No vegetation would be cleared or trimmed or soil disturbed. Rock cribs would be placed on top of the ground to create stretch panels and end braces. Material may be delivered to the area by helicopter, horseback or by trucks restricted to vehicular ways. Material would be carried within the WSA, to the work sites, by hand or on horseback. Fence placement would be such that it would be partially screened by topography and vegetation, thus making it not visible throughout much of the WSAs as a whole or any substantial portion of the WSAs. The fence would be substantially noticeable to those only in its immediate vicinity.

Alternative A

Management of public land would be in accordance with the Catlow Conservation Agreement, dated 1997. The Blitzen Pasture, which contains upper tributaries of Home Creek, would be managed as described under the Donner und Blitzen NWSR objective. To mitigate effects of the construction of the Blitzen protection fence and the shift in domestic livestock distribution to Home and Threemile Creeks in the Steens Pasture of the South Steens Allotment, the Home Creek protection fence would be constructed to create a pasture that separates Home Creek and Threemile Creek from the remainder of the Steens Pasture. The Home Creek protection fence would be reevaluated upon wilderness designation and would be removed if found ineffective in achieving the resource objectives for which it was constructed. It is expected that 20+ miles of private land fencing would be constructed along the private and public land boundaries in the area. An adaptive management strategy would be used to allow recovery of the fish habitat in Home, Threemile, and Skull Creeks. This strategy may include annual adjustments in domestic livestock use, grazing standards of 45 percent herbaceous and 20 percent woody use on riparian species, reductions in stocking level, increased rest periods, or reduced periods of use; or potential range improvements, such as fences or water developments to improve domestic livestock distribution and control. Prescribed burns and wild horse management would continue to occur as described in the South Steens AMP.

The Home Creek protection fence would be constructed to create a pasture that separates Home and Threemile Creeks from the remainder of the Steens Pasture. This fence would be constructed north of Home Creek and be 6.1 miles long (5.2 miles BLM, 0.9-mile private), beginning near the Catlow Rim to the west and extending eastward to the Blitzen protection fence (see Map SS-2). Construction of the Home Creek protection fence would create one new pasture, approximately 25,000 acres, out of the southern end of the larger Steens Pasture, currently approximately 92, 000 acres, and allow achievement of riparian, fisheries, and vegetative objectives. This new pasture would contain 11.8 miles of public and private fish habitat in Home Creek and 3.4 miles of nonfish habitat in the upper portion of Threemile Creek. The entire upper watershed of Threemile Creek would be in the new pasture, although none of its fish habitat. The new pasture would be managed for expedited recovery of the fish habitat within and downstream of the new pasture. Because of the pressures on the fences expected from wild horses and domestic livestock, fencing would be 4-strand barbed wire and meet BLM specifications. Within approximately 1.0-mile of Catlow Rim the fence would be constructed to BLM standards for a bighorn sheep passable 3-wire fence. In addition one or more stairstep rock or other appropriate cross-overs for bighorn sheep would be included on the fence within one-half mile of the Catlow Rim. Gates would be installed on all fences to meet BLM specifications and would be placed on all major horse trails, at least one every mile; on vehicular ways; and in all fence corners. During seasons of no domestic livestock use gates would be left open for wild horse movement. Approximately 8 to 10 gates are projected to be included in this fence.

Alternative B

Management specific to the Catlow Valley redband trout and Catlow tui chub would be based solely on adaptive management strategies as described in Alternative A, and would include an increased dependence on livestock herding. Mitigation of effects of the Blitzen protection fence, which shifts domestic livestock distribution to Home and Threemile Creeks, would be limited to these practices. The Home Creek protection fence described in Alternative A would not be constructed. No new fences on public land are proposed. It is expected that 30+ miles of private land fencing would be constructed along the private and public land boundaries in the area.

Alternative C

Management specific to the Catlow Valley redband trout and Catlow tui chub would include adaptive management strategies described in Alternative A and the Lauserica fence and Stephens extension fence. These fences would be constructed in lieu of the Home Creek protection fence to mitigate effects of the construction of the Blitzen protection fence and the shift in domestic livestock distribution to Home and Threemile Creeks. These fences would be reevaluated upon wilderness designation and would be removed if found ineffective in achieving the resource objectives for which they were constructed. No new fencing would be constructed along the private and public land boundaries in the area.

The Lauserica fence would be constructed to create a pasture that separates Home and Threemile Creeks from the remainder of the Steens Pasture. Construction of this fence would mitigate effects of the construction of the Blitzen protection fence. This fence would be constructed north of Home Creek and divide the Steens Pasture into two pastures. The northern pasture would be approximately 67,000 acres and the southern pasture would be approximately 25,000 acres. The fence would be an estimated 9.9 miles long (8.2 miles BLM, 1.7 miles private), beginning near the Catlow Rim to the west and extending eastward to the Blitzen protection fence (see Map SS-2). The Lauserica fence was previously analyzed in the South Steens AMP and EA. Construction would be as described for the Home Creek protection fence, to within approximately 1.0-mile of Catlow Rim. From this location to the east, where the fence ends near the Catlow Rim, it would be constructed to BLM standards for a bighorn sheep passable 3-wire fence. In addition one or more stairstep rock or other appropriate cross-overs for bighorn sheep would be included on the fence within one-half mile of the Catlow Rim. Gates would be placed on all major horse trails, at least one every mile; on vehicular ways; and in all fence corners. Approximately 15 to 20 gates would be expected to be included in this fence. During seasons of no domestic livestock use gates would be left open for wild horse movement.

The Stephens extension fence would total approximately 1-mile. This fence would extend the private fence that lies between Home Creek and Threemile Creek westward making a small 4,000-acre pasture, to eliminate domestic livestock movement between the two drainages. This leaves the South Pasture at 21,000 acres. Construction specification would be as described for the Home Creek protection fence. Gates would be placed on all major horse trails, at least one every mile; on vehicular ways; and in all fence corners. Approximately three to five gates would be expected to be included in this fence. During seasons of no domestic livestock use gates would be left open for wild horse movement.

Alternative D

Management specific to the Catlow Valley redband trout and Catlow tui chub would be as described in Alternative C except that the Lauserica fence would not be constructed. The only fence constructed would be the Stephens extension fence as described in Alternative C. Like Alternative A, this alternative would also require an increased dependence on livestock herding as well as additional administrative actions. This fence would be reevaluated upon wilderness designation and would be removed if found ineffective in achieving the resource objectives for which it was constructed. An equal amount of nonfunctional existing fence would be removed from the same WSA. It is expected that 25+ miles of private land fencing would be constructed along the private and public land boundaries in the area.

Alternative E

This no public land grazing alternative would not require implementation of any specific domestic livestock grazing management strategies on BLM land. Livestock use in the affected Catlow Valley redband trout and Catlow tui chub habitats would occur exclusively on the private land portions of the habitat. It is expected that 60+ miles of private land fencing would be constructed along the private and public land boundaries in the area.

Environmental Consequences

The following is an analysis of impacts, conclusion and summary from Management Action 3, of the Special Status Species Objective 1, of Chapter 3. The effects on resources not discussed below are negligible or nonexistent and therefore not included.

Catlow Special Status Species

Alternative A

Impacts: Improved location and seasonal control of domestic livestock grazing management would result in improvements in fish habitat. Improved riparian vegetation condition and bank stability are expected. Enhanced fish habitat characteristics would include rootwad cover, overhanging vegetation cover, terrestrial and aquatic insect production, increased frequency of undercut banks, and pool habitat. Water quality is expected to improve as stabilized banks result in decreased siltation of spawning gravel, decreased turbidity, lower width to depth ratios with consequent increases in pool or glide habitat, and increased bank storage capability with consequent later release of water for higher, more stable summer flows. With increased overhanging vegetation, higher summer flow, and narrower and deeper channels, summer water temperatures would be cooler.

The existing Blitzen protection fence will tend to shift livestock use toward the Home Creek drainage. The result of the construction of the Home Creek protection fence, splitting the existing 92,000-acre Steens Pasture into two pastures of approximately 67,000 and 25,000 acres, and implementation of utilization standards would allow for mitigation of the negative effects expected from the construction of the Blitzen protection fence and the expedited recovery of the 10.0 miles of fish habitat in Home Creek and 1.96 miles of fish habitat in Threemile Creek. Nonetheless, the addition of 20+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land. Adjustments to the grazing system to meet resource objectives would be made through the adaptive management process. Long-term improvements to fish habitat are expected similar to Alternatives C and D. Long-term improvements would be faster than under Alternative B because of the mitigation for the effects of the Blitzen protection fence. Improvements to fish habitat on public land may be slower than under Alternative E, however, if domestic livestock exclusion in Alternative E results in the fencing off and increased use of privately owned stream reaches. Improvements to the overall fish habitat under this alternative may be faster than under Alternative E.

Conclusion: The Special Status Animals objective would be supported by the management actions for the Catlow Valley redband trout and the Catlow tui chub. Because of the difference in domestic livestock grazing management, movement toward conservation of these species is expected, but at a slower and possibly delayed rate compared to Alternatives C and D. Attainment of the objective is expected to be faster than under Alternative B because of the mitigation of the negative effects on the lower reaches of Home and Threemile Creeks expected from the construction of the Blitzen protection fence. This alternative would be slower in short-term improvements than Alternative E, but in the long term it will more fully achieve the objective than Alternative E. These results would occur because of a more cooperative watershed-level management, a proactive approach to vegetation restoration and management of domestic livestock that allows achievement of the objective. Nonetheless, the addition of 20+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land.

Alternative B

Impacts: Domestic livestock grazing management should result in improvements in fish habitat as described under Alternative A. The 5.5 miles of fish habitat in the Blitzen Pasture are expected to improve because of the utilization limits prescribed in the South Steens AMP, earlier removal date, and one year of rest out of three. The early season of use in the pasture and the utilization limits should allow improvements of the riparian area. Without construction of the Home Creek protection fence or the Lauserica fence in the Steens Pasture to mitigate for the domestic livestock and wild horse concentration resulting from the construction of the Blitzen protection fence, the 10.0 miles of fish habitat in the lower reaches of Home Creek and the 4.8 miles of nonfish habitat in the headwaters of Threemile Creek would be slower to improve than under the other alternatives. Improvements would occur on 7.4 miles of fish habitat in Skull Creek but slower than under Alternative A because of less flexibility in providing rest. Adjustments to the grazing system to meet resource objectives would be made through the adaptive management process; therefore, long-term improvements to fish habitat are expected. However, these improvements are expected to be slower than under the other alternatives. Also the addition of 30+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land. Improvements to fish habitat on public land may slower than under Alternative E however, if domestic livestock exclusion in Alternative E results in the fencing off and increased use of privately owned stream reaches, improvements to the overall fish habitat under this alternative may be faster than Alternative E.

Conclusion: The Special Status Animals objective would be supported by the management actions for the Catlow Valley redband trout and Catlow tui chub. Movement toward these objectives is expected to be slower than Alternatives A, C, and D because of the difference in domestic livestock grazing management. This alternative lacks mitigation of the negative effects on the lower reaches of Home Creek and the upper reaches of Threemile Creek expected as a result of the Blitzen protection fence. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective than Alternative E. These results would occur because of the proactive approach to vegetation restoration and domestic livestock management that allows achievement of the objective. However the addition of 30+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land.

Alternative C

Impacts: Domestic livestock grazing management should result in improvements in fish habitat as described in Alternative A. Management of the Blitzen Pasture, through timing, periodic rest, and residual stubble height requirements, should allow faster recovery of the fish habitat in the upper tributaries of Home Creek than under Alternatives A and B, but slower recovery than under Alternative D because of the increased use of pasture rest and administrative adjustments to livestock use.

The construction of the Lauserica fence and the Stephens extension fence would result in the creation of three pastures out of the existing, large 92,000-acre Steens Pasture. These would be the North Steens Pasture, approximately 67,000 acres; the Home Creek Pasture, approximately 21,000 acres; and the Stephens Pasture, approximately 4,000 acres. This would provide more flexibility to manage domestic livestock for expedited recovery of the 10.0 miles of fish habitat in Home Creek and the 4.8 miles of nonfish habitat in the headwaters of Threemile Creek. Improvements in Skull Creek would be similar to that of Alternative B, however, the creation of additional pastures under this alternative would provide more opportunity for developing grazing strategies that would expedite recovery of Skull Creek.

Adjustments to the grazing strategy to meet resource objectives would be made through the adaptive management process. Through effective livestock management practices which include a timing, periodic rest, and residual stubble height requirements in pastures that contain fish habitat and mitigation for the effects of the Blitzen protection fence, this alternative would provide more rapid and long-term improvement than any other alternative on a landscape scale. No new private land boundary fencing is expected. An integrated approach for grazing management using both private and public lands would result in the improvement of fish habitat throughout the affected landscape.

Conclusion: The Special Status Animals objective would be supported by the management actions for the Catlow Valley redband trout and Catlow tui chub. Movement toward the conservation of the these species is expected but at a faster rate than in Alternatives A, B, and D because of the difference in domestic livestock grazing management. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective on the landscape than Alternative E. These results would occur because of cooperative watershed-level management on land that is 61 percent private ownership and 39 percent public land, proactive approach to vegetation restoration, and landscape scale management of domestic livestock that does not segregate the private from public land. No new private land boundary fencing is anticipated.

Alternative D

Impacts: Domestic livestock grazing management should result in improvements in fish habitat as described under Alternative A. The 5.5 miles of fish habitat in the upper tributaries of Home Creek in the Blitzen Pasture are expected to improve faster than under Alternatives A-C because of pasture rest and administrative adjustments to livestock stocking levels. The construction of the Stephens extension fence would result in separation of Threemile Creek into a separate pasture. This would provide flexibility to manage domestic livestock for expedited recovery of the 4.8 miles of nonfish habitat in the headwaters of Threemile Creek. There would be no mitigation for the domestic livestock and wild horse concentration resulting, from the construction of the Blitzen protection fence, in the 10.0 miles of fish habitat in the lower reaches of Home Creek except for livestock herding. In Alternatives A and C this was provided through construction of the Home Creek protection fence and the Lauserica fence, respectively. Although adaptive management strategies would allow attainment of the objectives, improvements may be slower. Improvements in Skull Creek would be similar to Alternative B. The additional years of rest in the Blitzen Pasture may also result in increased use of the other pastures that contain Catlow fish habitat. Adjustments to the grazing system to meet resource objectives would be made through the adaptive management process. Long-term improvements to fish habitat are generally expected in pastures containing public land but not necessarily in those pastures that are entirely privately owned. In this alternative, the addition of 25+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land. Improvements in fish habitat may be expedited in the upper tributaries of Home Creek and in Threemile Creek as a result of the new Stephens extension fence, but slower in the lower reaches of Home Creek.

Conclusion: The Special Status Animals objective is supported by the management actions for the Catlow Valley redband trout and Catlow tui chub. Movement toward the conservation objectives for both fish species is expected on the public stream reaches. Improvement of the habitat on the private stream reaches may be delayed because of the expected increased use of private pastures, delaying overall achievement of the conservation objectives for the species. Recovery rates in the lower reaches of Home Creek and in Skull Creek would be similar to Alternative B. Short-term negative effects may occur until livestock grazing adjustments are made to address the change in domestic livestock grazing pressures created by the Blitzen protection fence, or the need to provide additional rest to the Blitzen Pasture. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would better attain the objective than Alternative E. These results would occur because of the proactive approach to vegetation restoration and domestic livestock management that allows achievement of the objective.

Alternative E

Impacts: With no domestic livestock grazing, improvements are expected to occur as described in Alternative A on public land stream reaches. However, if domestic livestock exclusion results in fencing off and increased use of private pastures that contain fish habitat, landscape wide habitat improvements are expected to be slower than under the other alternatives. In this alternative, the addition of 60+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land. Recovery of the habitat in private reaches may be delayed or not achieved because of the expected increased use. The grazing alternatives available on private land would be restricted by fewer available pastures. Resource objectives on the private land would be expected to be focused primarily on livestock forage production. Since most of the privately owned portions of stream reaches are in the headwaters of the streams, all of the Catlow fish habitat could be at risk.

Conclusion: The Special Status Animals objective is supported on public land by the management actions described in Alternative E but conservation of Catlow Valley redband trout and Catlow tui chub may not occur under this alternative because a coordinated landscape approach to management would not be implemented. No proactive management would occur for restoration of the vegetation through prescribed fire. Negative effects from wild horses are expected to increase because of no control of their numbers or distribution. Without the watershed-level management for domestic livestock, overall improvement of the fish habitat in Home, Threemile, and Skull Creeks may not occur.

Summary of Impacts

All alternatives support the Special Status Animals objective at least on public land. Alternatives A, B, C, and D would allow progress toward the conservation of the Catlow Valley redband trout and Catlow tui chub, but Alternative C provides the best opportunity for expediting conservation of the species throughout their habitat in Home, Threemile, and Skull Creeks. Other than through livestock herding, Alternatives B and D do not mitigate for the shift in domestic livestock use to Home Creek, expected from the construction of the Blitzen protection fence. In such a large area with rough terrain, herding efforts are not expected to be practical or have adequate success in achieving objectives. Adaptive grazing management strategies under Alternative D would allow improvements in fish habitat on public land, but the changes in management would be reactive rather than proactive and therefore delayed. With fewer pastures and less flexibility to provide rest to public and private pastures, the overall fish habitat improvements may be slower.

Conservation of the total habitat requirements of Catlow Valley redband trout and Catlow tui chub may not occur under Alternative E. Improvements in fish habitat expected from removal of domestic livestock may be minimal and limited to the small amount of BLM-managed land in the affected area. Exclusion of domestic livestock from public land may result in increased use of the private land, including the upper watersheds of Home, Threemile, and Skull Creeks, which would put at risk all of the fish habitat within these streams.

Livestock Grazing Management and Wild Horses

Alternative A

Livestock grazing impacts: Early season of use and periodic rest, included in this alternative for the Blitzen Pasture, would enhance the capability for both short and long-term achievement of resource objectives. Improvements in the aquatic and riparian habitats of the upper tributaries of Home Creek are expected to occur.

The proposed Home Creek protection fence would create a pasture with lower Home Creek and Threemile Creek in it. This would prevent access by livestock to these streams from Steens Pasture. It is estimated that 20+ miles of additional fencing on the public-private land boundaries and on private land would be implemented by the private landowner to achieve the ecological objectives of the Catlow Conservation Agreement. There is an existing fence, (Stephens fence) on private land just north of Threemile Creek, that ends on the public-private land boundary. From the end of this fence to approximately 1-mile west there is nothing to impede movement of livestock between Home and Threemile Creeks.

There is a main livestock trail along Threemile Creek used to move cattle off the southwest portion of the South Steens Allotment at the end of the grazing season. Every year, at the end of the grazing season, cattle would be trailed through the pasture containing Home and Threemile Creeks. Some cattle would stray away from riders and graze in the riparian zones along these creeks, resulting in late season grazing use each year. The length of time, number of animals, and intensity of grazing use would be determined by the diligence of riders observing the cattle while trailing them, frequency of riders checking each stream, and the length of time cattle are allowed in the pasture before trailing them off the mountain.

The adaptive grazing management for livestock in this proposed pasture would have a general 4-year schedule which includes 1-year of rest. Every year there would be some late season use from trailing and possible stray cattle grazing. Utilization would be monitored and all livestock use would be halted when herbaceous riparian vegetation was grazed to an average of 45 percent of annual growth and average utilization on woody riparian species was to 20 percent.

Implementing these utilization limits would ensure adequate herbaceous and woody vegetation to maintain stable streambanks, provide for desired woody species development and recruitment, and provide adequate vegetative cover to capture sediment during peak flows.

Livestock grazing conclusion: Riparian vegetation would continue to improve with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes. Although the general trend in riparian and rangeland condition would be upward, some areas would respond more quickly than others. Movement toward rangeland objectives is expected, but at a slower and possibly delayed rate compared to Alternatives C and D, because of the difference in domestic livestock grazing management. Attainment of the objectives is expected to be faster than Alternative B because of the mitigation of the negative effects on the lower reaches of Home and Threemile Creeks expected from the construction of the Blitzen protection fence. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective than Alternative E. These results would occur because of a more cooperative watershed-level management, a proactive approach to vegetation restoration and management of domestic livestock that allows achievement of the objective. Nonetheless, the addition of 20+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land.

Wild horse impacts: The proposed Home Creek protection fence would restrict movement of the horses. Mitigation measures include placement of gates on all dominant horse trails, at least one every mile; on vehicular ways; and in all fence corners. Approximately 8 to 10 gates would be expected to be included in this fence. The gates would be left open when Home Creek and Steens Pastures were not being grazed by livestock. Nonetheless, the placement of this fence could restrict movement of the wild horses and result in some of the horses remaining in a smaller home range territory.

Approximately 10 percent of the horses in the South Steens Herd Management Area (HMA) reside in the vicinity in which the fence is proposed. An additional 5 to 10 percent of the horse herd may move in and out of this area. These horses may be prevented from entering, or restricted from leaving the area when the gates are closed. Adaptive management strategies would vary the season livestock are in the area. Typically, livestock can be expected to be in the pastures, and fence gates closed, for approximately three consecutive months during the 6-month period of April 1 to October 1. One out of four years the area would typically be rested and gates would remain open all year. Adequate forage and water is available for all wild horses that may be restricted to the 25,000-acre Home Creek Pasture for 3 months.

Grazing by several bands of horses may have adverse impacts for desired riparian woody species establishment and desired herbaceous species due to uncontrolled timing and duration of grazing or due to confining the horses to a smaller use area. This may require gathering and removing horses, within the Appropriate Management Levels (AMLs), when rangeland monitoring indicates that the grazing by horses is having a negative impact on riparian vegetation within the Catlow stream basins, as outlined in the South Steens AMP.

If public-private land boundaries (25+ miles anticipated) are fenced, those wild horses that frequent the southern end of the South Steens HMA, where significant amounts of private land are, would no longer have access to private land which is approximately 45 percent of the traditional range within the Home and Threemile Creeks stream basins. Gates on private land would not be required to be left open. This would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA.

Wild horse conclusion: The proposed Home Creek protection fence may have some negative effect on wild horses. At most, 10 to 20 percent of the herd could be affected and could change use patterns of the affected horses. Mitigation measures include placement of gates that would be left open when Home Creek and Steens Pastures were not being grazed by livestock. Even though gates are open, some horses may establish a home territory different than that prior to placement of the fence. The potential for adverse impact to wild horses is more significant from public-private land boundary fences. These fences would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA.

Alternative B

Livestock grazing impacts: The adaptive management would continue as outlined in South Steens AMP, with changes in timing of grazing and additional rest incorporated to accelerate an upward trend in riparian condition on the Catlow streams. The use of livestock herding practices would need to be intensified with several to many additional riders required to mitigate the effects of the Blitzen protection fence, which shifts domestic livestock distribution to Home and Threemile Creeks. Even under these conditions the risk of not achieving the identified objectives is greater than under Alternatives A, C, or D.

Although upward trend in riparian and rangeland condition is being achieved on much of the public land portions of the Catlow stream basins with current adaptive management and existing structures, the accelerated improvement of habitat for the entire Catlow stream basins described in the Catlow Conservation Agreement cannot be achieved without additional fencing on the public-private land boundaries. With 61 percent of the Catlow stream basins privately owned and 39 percent public land, it is expected that the public-private land boundaries would be fenced by the private landowner. It is estimated a minimum of 30+ miles of 3 and 4-strand barbed wire fencing would be placed along public-private land boundaries to provide the control of livestock needed to achieve the ecological objectives outlined in the AMP and Conservation Agreement. This fencing is needed to control livestock, to allow for rest, and to control the timing and duration of grazing which will enable the achievement of riparian and rangeland condition objectives. Nonetheless, the expected fencing of the private land undermines the cooperative management outlined in the Catlow Conservation Agreement and creates a greater risk of not achieving the riparian and upland objectives on a landscape scale.

Livestock grazing conclusion: Movement toward rangeland objectives is expected to be slower than Alternatives A, C, and D because of the difference in domestic livestock grazing management. This alternative lacks mitigation of the negative effects of livestock and wild horses concentrating on the lower reaches of Home Creek and the upper reaches of Threemile Creek, expected as a result of the Blitzen protection fence. The increased reliance on herding would aid, but does not assure, achievement of objectives. This alternative would be slower in short-term improvements than Alternative E, but in the long term it will more fully achieve the objective than Alternative E. However, the addition of 30+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan will likely result in slower improvements on the private land.

Wild horse impacts: Wild horses would continue to have impacts on Home and Threemile Creeks above the Catlow Rim, due to seasonal concentration by several bands of horses and increased use due to the newly-constructed Blitzen protection fence. Wild horses currently roam and graze the intermixed private and public lands within the Catlow basins. These horses represent about 10 percent of the horses within the South Steens HMA. If public-private land boundaries (30+ miles anticipated) are fenced, the wild horses in the southern end of the HMA will no longer have access to private land that is approximately 45 percent of the traditional range within the Home and Threemile Creeks stream basins. This will adversely affect the home range and free-roaming nature of several bands of horses within the South Steens HMA.

Wild horse conclusion: The potential for adverse impact to wild horses is significant from public-private land boundary fences. These fences would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA. Any gates would remain closed at the discretion of the private landowner.

Alternative C

Livestock grazing impacts: The construction of the additional 10.9 miles of fence proposed under this alternative (Lauserica fence and Stephens fence extension) would create three pastures (North Steens, Home Creek, and Stephens Pastures) from the existing Steens Pasture. These structures would allow, through an adaptive management strategy, control of the timing and duration of grazing as well as periods of rest from grazing. This would provide the maximum rate of achievement of riparian and rangeland condition objectives on both public and private lands within the Catlow stream basins. The proposed fences enhance the BLM's ability to manage the land in a manner so as not to impair their ecological and wilderness values. The proposed fences are for the purpose of maintaining the integrity of a grazing management system which enhances the overall landscape conditions, reduces impacts to riparian areas and enhances fish habitat conditions and population viability in the landscape as a whole.

The general grazing schedule for Home Creek Pasture would be early season grazing. The Stephens Pasture would have early season grazing or late season grazing in some years. The management flexibility created by development of the additional pastures would permit the grazing rotation to include rest years as needed. Stephens Pasture would have trailing through it every year. There would be no access for livestock to lower Home Creek during trailing. The size of the pasture should allow for trailing without stray animals left grazing along Threemile Creek afterwards.

Utilization limits on herbaceous riparian vegetation is an average of 45 percent of annual growth and 20 percent on desired woody riparian species. Utilization limits would typically not be reached during early season grazing because livestock grazing would be completed before dietary preference causes use on woody species and the herbaceous riparian vegetation. Herbaceous vegetation near the stream (greenline) would be expected to have at least a 4-inch end of growing season stubble height. This is adequate for herbaceous and woody vegetation to maintain stable streambanks, to provide for desired woody species recruitment and development, and to provide adequate vegetative cover to capture sediment during peak flows.

The additional fences outlined in this alternative would provide the basic livestock and management control needed to accelerate upward trend in riparian and rangeland condition on both public and private lands within the Catlow basins and the other watersheds of South Steens. The cooperative management of intermixed public and private lands would eliminate the need for ownership boundary fences to accomplish the objectives of the Catlow Conservation Agreement.

Livestock grazing conclusion: Achievement of riparian and upland habitat objectives is expected on both private and public lands. Movement toward achievement of riparian and upland objectives is expected at a faster rate than in Alternatives A, B, and D because of the difference in domestic livestock grazing management. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective on the landscape than Alternative E. These results would occur because of cooperative watershed-level management on land that is 61 percent private and 39 percent public. The proactive approach to vegetation restoration, and the landscape scale management of domestic livestock that does not segregate the private from public land. No new private land boundary fencing is anticipated.

Wild horse impacts: The free-roaming nature of wild horses would be negatively impacted with the additional 10.9 miles of fencing proposed. Mitigation measures include placement of gates at all dominant horse trails, at least one every mile; on vehicular ways; and in all fence corners. Approximately 15 to 20 gates would be expected to be included in this fence. The gates would be left open when any two adjacent pastures are not being grazed by livestock. Nonetheless, the placement of this fence could restrict movement of the wild horses and result in some of the horses remaining in a smaller home range territory.

Grazing by several bands of horses may have adverse impacts for desired riparian woody species establishment and desired herbaceous species due to uncontrolled timing and duration of grazing or due to confining the horses to a smaller use area. As outlined in the South Steens AMP, gathering of those bands of horses may be required, within the AMLs, when rangeland monitoring indicates they are having negative impacts on riparian or upland vegetation within the Catlow stream basins.

Approximately 10 percent of the horses in the HMA reside in the vicinity in which the fences are proposed. An additional 5 to 10 percent of the horse herd may move in and out of this area. These horses may be prevented from entering, or restricted from leaving, the area when the gates are closed. Adaptive management strategies would vary the season livestock are in the area. Typically, livestock can be expected to be in the pastures, and fence gates closed, for approximately three consecutive months during the 6-month period of April 1 to October 1. One out of four years the area will typically be rested and gates will remain open all year. Adequate forage and water would be available for all wild horses that may be restricted to the 21,000-acre Home Creek Pasture or 4,000-acre Stephens Pasture for 3 months. Horses would not be restricted from the use of the private land in the southern end of the HMA, which includes traditional range within the Home Creek and Threemile Creek stream basins and is approximately 45 percent private.

Wild horse conclusion: The proposed Lauserica and Stephens fences may have some negative effect on wild horses. At most 10 to 20 percent of the herd could be affected, changing use patterns of the affected horses. Mitigation measures include placement of gates that would be left open when adjacent pastures were not being grazed by livestock. These fences may affect the home range of some bands of horses within the South Steens HMA. Even though gates are open, some horses may establish a home territory different than that prior to placement of the fence. There would be no public-private land boundary fences, therefore no adverse impacts to wild horses from such fences.

Alternative D

Livestock grazing impacts: The adaptive management would continue, as outlined in Alternative B, with changes in timing of grazing and additional rest incorporated to accelerate an upward trend in riparian condition on the Catlow streams. The use of livestock herding practices would need to be intensified with several to many additional riders to mitigate the effects of the Blitzen protection fence, which shifts domestic livestock distribution to Home Creek. The Stephens protection fence will aid in the achievement of objectives in the upper reaches of Threemile Creek. Even under these conditions, the risk of not achieving the identified objectives is greater than under Alternatives A or C and similar to the risks under Alternative B.

Although upward trend in riparian and rangeland condition is being achieved on much of the public land portions of the Catlow stream basins with current adaptive management and existing structures, the accelerated improvement of habitat for the entire Catlow stream basins described in the Catlow Conservation Agreement cannot be achieved without additional fencing on the public-private land boundaries. With 61 percent of the Catlow stream basins privately owned and 39 percent public land, it is expected that the public-private land boundaries would be fenced by the private landowner. It is estimated a minimum of 25+ miles of 3 and 4-strand barbed wire fencing would be placed along public-private land boundaries to provide the control of livestock needed to achieve the ecological objectives outlined in the AMP and Conservation Agreement. This fencing is needed to control livestock, to allow for rest, and to control the timing and duration of grazing which will enable the achievement of riparian and rangeland condition objectives. Nonetheless, the expected fencing of the private land undermines the cooperative management outlined in the Catlow Conservation Agreement and creates a greater risk of not achieving the riparian and upland objectives on a landscape scale.

Livestock grazing conclusion: Movement toward rangeland objectives is expected to be slower than Alternatives A and C, but faster than B because of the difference in domestic livestock grazing management. Except through livestock herding, this alternative lacks mitigation of the negative effects of livestock and wild horses concentrating on the lower reaches of Home Creek, expected as a result of the Blitzen protection fence. The construction of the Stephens protection fence improves grazing management in the upper reaches of Threemile Creek. The increased reliance on herding would aid, but does not assure, achievement of objectives. This alternative would be slower in short-term improvements than Alternative E, but in the long term it will more fully achieve the objective than Alternative E. However, the addition of 25+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land.

Wild horse impacts: Wild horses would continue to have adverse impacts on Home and Threemile Creeks above the Catlow Rim, due to seasonal concentration by several bands of horses and increased use due to the newly-constructed Blitzen protection fence. As outlined in the South Steens AMP, gathering of those bands of horses may be required, within the AMLs, when rangeland monitoring indicates they are having negative impacts on riparian or upland vegetation within the Catlow stream basins.

The free-roaming nature of some wild horses may be negatively impacted with the additional 1.0 mile of fencing proposed. Approximately 5 percent of the horses in the HMA reside in the vicinity in which the fence is proposed. An additional 5 percent of the horses may move in and out of this area. These horses may be prevented from entering, or restricted from leaving, the area when the gates are closed. Adaptive management strategies would vary the season livestock are in the area. Typically, livestock can be expected to be in the pastures, and fence gates closed, for approximately three consecutive months during the 6-month period of April 1 to October 1. One out of four years the area would typically be rested and gates would remain open all year. Adequate forage and water is available for all wild horses that may be restricted to the 4,000-acre Stephens Pasture for 3 months.

The negative impacts would be mitigated by placing gates in the fences at all dominant horse trails, at least one every mile, on vehicular ways, and in all fence corners. Approximately four to five gates would be expected to be included in this fence. The gates would be left open when the pastures are not being grazed by livestock.

Wild horses currently roam and graze the intermixed private and public lands within the Catlow basins. If public-private land boundaries (25+ miles anticipated) are fenced, the wild horses in the southern end of the HMA would no longer have access to private land which is approximately 45 percent of the traditional range within the Home Creek and Threemile Creek stream basins. In fact the southernmost pasture that would be created, the Stephens Pasture, is approximately 60 percent private land. Gates on private land are not required to be left open. This would affect the home range and free-roaming nature of a several bands of horses within the South Steens HMA.

Wild horse conclusion: The proposed Stephens fence may have some negative effect on wild horses. At most, 10 percent of the herd could be affected. The fence may change use patterns of the affected horses. Mitigation measures include placement of gates that would be left open when Stephens and Steens Pastures were not being grazed by livestock. Even though gates are open, some horses may establish a home territory different than that prior to placement of the fence. The potential for adverse impact to wild horses is more significant from public-private land boundary fences. These fences would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA.

Alternative E

Livestock grazing impacts: As described under Alternative B, 61 percent of the Catlow basins are privately owned and within the total South Steens Allotment, 55.5 miles of streams are publicly owned, and 81.9 miles are privately owned. Eliminating livestock use on public land would likely result in approximately 60+ miles of additional fencing on public-private land boundaries throughout South Steens. The cooperative management strategies identified in the Catlow Conservation Agreement could not be implemented. The habitat protection for the sensitive Catlow Valley redband trout and Catlow tui chub would be limited to only the public land managed by the BLM.

Livestock grazing conclusion: The upland and riparian habitat objectives are supported on public land by the management actions described in Alternative E, but may not occur under this alternative on private land because a coordinated landscape approach to management would not implemented. No proactive management would occur for restoration of the vegetation through prescribed fire. Without the watershed-level management for domestic livestock, overall improvement of the upland and riparian habitat in Home Creek, Threemile Creek, and Skull Creek drainages may not occur.

Wild horse impacts: Under this alternative, wild horse populations would be left to natural controls. The natural diversity of plant species would further be reduced as wild horse numbers increased toward carrying capacity. Population increases would occur and then die-offs would result as the natural carrying capacity of the habitat is exceeded.

Wild horses would continue to have impacts on Home and Threemile Creeks above the Catlow Rim, due to seasonal concentration by several bands of horses and increased use due to the newly-constructed Blitzen protection fence. If public-private land boundaries are fenced (60+ miles anticipated), the wild horses in the southern end of the HMA would no longer have access to private land which is approximately 45 percent of the traditional range within the Home Creek and Threemile Creek stream basins. This would adversely affect the home range and free-roaming nature of several bands of horses within the South Steens HMA. Wild horses currently roam and graze the intermixed private and public lands within the Catlow basins.

Wild horse conclusion: The potential for adverse impacts to wild horses is significant from public-private land boundary fences. These fences would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA.

Summary of Impacts

Livestock Grazing Management: All alternatives support the upland and riparian habitat objectives at least on public lands. Alternatives A, B, C, and D would allow progress toward these objectives, but Alternative C provides the best opportunity for achieving the objectives throughout the landscape. Alternatives B and D do not mitigate for the shift in domestic livestock use expected from the construction of the Blitzen protection fence other than through livestock herding. In such a large area, with rough terrain, herding efforts are not expected to be practical or have adequate success in achieving objectives. Adaptive grazing management strategies under Alternative D would allow improvements in vegetative conditions on public land, but the changes would be slower than in other alternatives. With fewer pastures and less flexibility to provide rest to public and private pastures, the overall vegetative improvements may be slower.

Achievement of upland and riparian habitat objectives on public land in Alternative E would be threatened by potential large increases in wild horse numbers. Improvements in vegetative conditions expected from removal of domestic livestock may be minimal.

Wild Horses: The primary adverse impact to wild horses in all the alternatives would be from the proposed or anticipated fences. Alternatives A, B, D, and E anticipate substantial public-private land boundary fences. The potential for adverse impact to wild horses is more significant from these fences. These fences would not be required to be placed in such a way as to minimize impacts to wild horses; and gates would not be required to be left open. These fences would affect the home range and free-roaming nature of some bands of horses within the South Steens HMA. In particular, if public-private land boundaries are fenced, the wild horses in the southern end of the HMA would no longer have access to private land which is approximately 45 percent of the traditional range within the Home Creek and Threemile Creek stream basins.

The fence proposals in Alternative C may also have an adverse impact on wild horses by affecting the home range and free-roaming nature of some bands of horses within the South Steens HMA. However, the fence proposals in Alternative C do not contain any anticipated public-private land boundary fences. Mitigation measures to minimize adverse impacts include frequent and strategically placed gates, gates left open approximately 39 of every 48 month livestock grazing cycle, and fence placement that minimizes adverse impact to wild horses.

Wilderness

This analysis addresses impacts to WSAs from the Donner and Blitzen National Wild and Scenic River Plan Revision and the Catlow Valley Conservation Agreement. This is a site-specific WSA analysis.

Alternative A

Impacts: Naturalness- There would be an addition of 5.2 miles of new permanent fence constructed in the WSAs. The addition of this new fence is estimated to influence the viewshed in approximately 5 percent of the WSAs. There would be adverse impacts to naturalness as the addition of this structure would change the natural character of the landscape near the fence. However, an equal amount of existing fence would be removed such that there would be no net increase of fence within the WSAs. The removed nonfunctional fence would reduce the influence of fence from an equal amount of the WSA viewshed. The fence would provice better control of livestock and improvement to ecological values. Improved riparian vegetation condition and bank stability are expected, resulting in enhanced fish habitat characteristics. Redband trout populations, a special feature found in the WSAs, would show gradual improvement.

It is estimated that 20+ miles of additional fencing would be constructed by the private landowner, on private land within, adjacent to, and near the WSAs, to achieve the ecological objectives of the Catlow Conservation Agreement. This fencing would be constructed on private land inholdings within the WSAs and private land adjacent to and near the WSAs. Although these fences would not be constructed within the WSAs, they would have an adverse impact on the landscape within which the WSAs are found and along the WSA boundaries where they are constructed.

Scenic qualities would be affected by the amount of these fences. The private land fencing would also have an adverse influence on the quality of naturalness within the WSAs. When encountered by the wilderness visitor, the physical presence of the fences detract from the WSAs. On the other hand, through better livestock control, the vegetative characteristics that contribute to naturalness in the WSAs, and habitat for wildlife and redband trout would be improved throughout the WSAs. Scenic qualities would also be enhanced where ecological conditions were improved.

Long-term improvement to riparian vegetation condition is expected. Riparian vegetation would continue to improve with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes. As a result of the early season utilization standard included in this alternative for the Blitzen Pasture, a portion of which is in the WSAs, riparian vegetative conditions are expected to show both short and long-term improvement. Although the general trend in riparian and upland vegetation condition would be upward, some areas would respond more quickly than others.

Solitude- Since the location is not frequently used by the wilderness visitor, it is unlikely that they would be encountered during construction of the proposed fences. Solitude would be slightly impacted during the time of construction which would be short term, lasting less than 1-month during actual construction. The impacts to solitude from riders herding cattle would be less than described in Alternative B. The fencing and segregation of private land inholdings would be a detraction from the expansiveness of the WSAs.

Primitive and Unconfined Types of Recreation- The presence of these fences can have an adverse influence on a primitive recreation setting, which are common or expected in these places. An equal amount of nonfunctional fence would be removed from the WSAs. The presence of the additional 20+ miles of private-public land boundary fencing on inholdings and private land near and adjacent to the WSAs would further restrict access along the WSA boundaries. Livestock, when they are encountered or where indications of their presence are found in a wilderness type of setting, are generally perceived as an intrusion on a primitive recreation experience. The chances of encountering livestock in this alternative is a greater probability during the spring and most of the summer. The alternative does, however, remove livestock from the riparian areas of the WSAs during higher summertime recreation use periods.

Day Hiking/Backpacking/Horseback Riding- The quality of hikes or horseback riding may be enhanced through improved ecological conditions, resulting from the fences (better control of livestock). Improved riparian conditions would improve hiking types of activities in these popular sought-out areas. However, this improvement would be slower than Alternatives C and D. Although, the proposed fences may hinder horse travel, gates would be located on primary horse trails, at least one every mile, on vehicular ways, and in fence corners to allow passage. Approximately 8 to 10 gates in all would be constructed. Although the presence of fences generally detract from a recreation experience to this user group, the proposed fence locations are out of the areas frequently traveled by the wilderness visitor.

Camping- The fences or resulting actions of these structures are not expected to have an impact on camping. Livestock encounters, however, do detract from the experience of this user group. The alternative removes livestock from the riparian areas of the eastern portion of the WSAs during higher summertime recreation use periods. Early season campers, in the riparian portions of the WSAs (primarily eastern sections), or summertime camping excursions into the drier upland areas of the WSAs (primarily central and western), would have a greater likelihood of encountering livestock.

Fishing/Hunting- Fishing and hunting opportunities may be enhanced by the proposed fence (better control of livestock) via improved ecological conditions. Opportunities for domestic livestock grazing management would result in improvements in fish habitat. Improved riparian vegetation condition and bank stability are expected, resulting in enhanced fish habitat characteristics. Redband trout populations, a special feature found in the WSA, could show improvement.

Although they can represent a hinderance, fences are generally not perceived to significantly degrade free access to fishing and hunting locations. It is the physical crossing of the fence(s) that is found to be most undesirable and not the actual presence of the structure. The proposed fence is not located in a stream so would not have any impact to fishers other than as described above. The presence of livestock may detract from hunting and fishing experiences if they interfere with the harvest. However, these impacts are mitigated because the livestock are out of the fishing area during the peak of the fishing season and out of the WSAs, entirely, during the time of most hunting seasons.

Wildlife Viewing- The actions or results from the fences could improve wildlife habitat and thus increase the opportunity to observe wild animals. These opportunities exist primarily on the Catlow Rim and canyons.

Photography and Sightseeing- Where ecological conditions are improved the quality of taking photographs of naturally occurring ecosystem functions and the improved sightseeing opportunities of viewing native plants and animals in their natural environment would be enhanced. Proposed fence locations are out of the areas frequently traveled by the wilderness visitor. In the portion of the area where public or private land fences are encountered this would detract from the photography and sightseeing opportunities locally.

Conclusion: When considering the original 4 miles of functional fence recorded in the wilderness inventory; the 10.13 miles of fence constructed by order of a court after the original wilderness inventory occurred; and the 5.2 miles of proposed fence under this alternative, the total fencing in the WSAs would be 19.33 miles. It is estimated that with the existing developments, noted at the time of wilderness inventory, which visually influence about 2 percent of the WSAs; the other fences that were constructed after the original wilderness inventory; the new fence that is being proposed, and the removal an equal amount of existing fence, that not more than 11 percent of the WSAs would now be influenced visually from the presence of human developments. The addition of 20+ miles of fencing that would likely be built on private landholdings within, adjacent to, and near the WSAs would have an additional adverse impact on the WSAs themselves. The physical presence of the fences detract from the WSAs when encountered by the wilderness visitor. On the other hand, the vegetative characteristics that contribute to naturalness in the WSAs, and habitat for wildlife and redband trout would be improved throughout both WSAs.

The actions of the proposed fence (better control of livestock) would improve some ecological values and subsequently enhance naturalness and some attributes of primitive and unconfined types of recreation. Habitat and population viability of the Catlow Valley redband trout and Catlow tui chub are expected to improve. The fencing needed to accomplish these improvements on both public and private lands would adversely impact the visual character of the landscape, but enhance the vegetative characteristics of naturalness. Fishing and hunting opportunities may be enhanced through improved ecological conditions. The proposed fence on public land would be an intrusion on a natural landscape where it is encountered; however, an equal amount of fence would be removed from the public land resulting in no net increase in fencing on public land. The visual scenic qualities of naturalness would be adversely affected by the amount of these fences, particularly the 20+ miles of fence expected to be built on private landholdings within, adjacent to, and near the WSAs. The addition of 20+ miles of private land fencing would have an adverse effect on the overall landscape within which the WSAs exist. Scenic qualities would be enhanced where ecological conditions were improved.

Alternative B

Impacts: Naturalness- No new fences would be constructed within the WSAs; however, 30+ miles of fences would be expected to be constructed on private land within, adjacent to, and near the WSAs. Livestock management actions would improve ecological conditions and, thus, would enhance naturalness and primitive and unconfined types of recreation. Redband trout populations, a special feature found in the WSAs, would show slower improvement than under other alternatives. However, adjacent private land which influences this secondary value may not show the improvement because it is not being managed under a cooperative landscape management agreement. Scenic qualities within the WSAs would be indirectly and adversely impacted by the extensive fence construction expected on private land within, adjacent to, and near the WSAs. Improved conditions to the land may improve certain scenic qualities.

Long-term improvement to riparian vegetation condition is expected on WSA land. Riparian vegetation would continue to improve, with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes, but at a slower rate than in Alternatives A, C, or D. Adjacent private land may not exhibit this same improvement, adversely affecting the overall landscape setting of the WSA.

Solitude- Intensified herding requirements, with as many as 10 additional riders required, would adversely impact solitude for the wilderness visitor to both riparian and upland areas of the WSAs. These impacts would occur during the spring and summer seasons, the peak times for wilderness visits. The fencing and segregation of private land inholdings would detract from the expansiveness of the WSAs.

Primitive and Unconfined Types of Recreation- The presence of these fences can have an adverse influence on a primitive recreation setting, which are common or expected in these places. This fencing on inholdings and private land near and adjacent to the WSAs would restrict access within and along the WSA boundaries. Livestock, when they are encountered or where indications of their presence are found in a wilderness type of setting, are generally perceived as an intrusion on a primitive recreation experience. The chances of encountering livestock in this alternative is a greater probability during the spring and most of the summer. The alternative does, however, remove livestock from the riparian areas of the WSAs during higher summertime recreation use periods.

Day Hiking/Backpacking/Horseback Riding- The quality of hikes or horseback riding would be enhanced by improved ecological conditions. The proposed fences on private land within, adjacent to, and near the WSAs would hinder foot or horse travel. Any gates would be placed at the discretion of the landowner and may be locked. When encountered, the presence of fences generally detract from a recreation experience to this user group.

Camping- General improvement of ecological conditions would enhance a camping experience. Livestock encounters, however, do detract from the experience of this user group. Encounters with riders in the area are also expected to detract from the camping experience. Adjacent private land may not exhibit this same improvement, adversely affecting the overall landscape setting of the WSAs.

Fishing/Hunting- Fishing and hunting opportunities would be enhanced as ecological conditions improve the habitat of game species. Fishing opportunities may be slow in recovering since private land portions of the habitat are not likely to be managed within a cooperative framework of landscape management.

Wildlife Viewing- Wildlife viewing opportunities would be enhanced where ecological conditions improved their habitat. These opportunities exist primarily on the Catlow Rim and canyons.

Photography and Sightseeing- Photography and sightseeing opportunities would be enhanced where ecological conditions improved the natural environment. Where private land fences are encountered it would detract from the photography and sightseeing opportunities locally.

Conclusion: There would be no further developments added to the WSAs specifically. However, the likely addition of 30+ miles of fence on private land within, adjacent to, and near the WSAs would have indirect adverse impacts to many of their wilderness characteristics.

Improvement of ecological conditions would enhance naturalness and most attributes of primitive and unconfined types of recreation, but fishing opportunities would be slow to improve. The likely addition of 30+ miles of fence on private land within, adjacent to, and near the WSAs would have direct adverse impacts on their wilderness character. Management of the public land separate from the intermingled private land would result in slower habitat improvements for the Catlow redband trout.

__*Alternative C*__

Impacts: Naturalness- There would be an addition of approximately 10.9 miles of new permanent fence constructed in the WSAs. This fence includes the Lauserica fence, the Stephens extension fence, and the Blitzen Pasture division fence referenced in the Donner und Blitzen Appendix. The addition of this new fence is estimated to influence 7 percent of the WSAs' viewshed. No new fences are anticipated on private land within, adjacent to, or near the WSAs. An additional 11 to 12 miles of nonfunctional fence would be removed from the WSAs thereby reducing the influence of fence from an equal amount of the WSA viewshed.

There would be impacts to naturalness as the addition of this structure would change the natural character of the landscape where it has a visual influence. However, the removal of an equal amount of nonfunctional fence would enhance the viewshed in the area from which it is removed. The Lauserica fence would extend across the WSAs at about the midpoint. The purpose of the fence (better control of livestock) would improve many ecological conditions.

Long-term improvement to riparian vegetation condition is expected. Riparian vegetation would continue to improve with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes. This alternative provides the fastest rate of achievement of riparian and upland vegetation condition objectives and improvement of vegetative characteristics of naturalness throughout the WSAs and on private land within, adjacent to, and near the WSAs.

Opportunities for improved domestic livestock grazing management would result in improvements in fish habitat. Improved riparian vegetation condition and bank stability are expected, resulting in enhanced fish habitat characteristics. Redband trout populations, a special feature found in the WSAs, are expected to show immediate improvement as habitat is improved in both the WSAs and on private land within, adjacent to and near the WSAs.

Where the fence is found within 0.50-mile of the Catlow Rim, some adverse impacts to bighorn sheep (a special feature) may occur. These impacts are mitigated by using a 3-strand barbed wire fence, constructed 1-mile from the Catlow Rim.

Scenic qualities and the condition of naturalness in the vicinity of the fences would be adversely affected. Due to the location of the fences, and the lack of fences on private land within, adjacent to, or near the WSAs, it is less likely that a visitor would encounter them than in Alternative A. Scenic qualities would be enhanced in the vicinity of the nonfunctional fences proposed for removal and where ecological conditions were improved.

Solitude- The analysis is the same as described in Alternative A relative to impacts to solitude during fence construction. Construction of this fence may take a few days longer than the fence proposed in Alternative A. With the addition of the fence, however, the impacts to solitude from more riders herding cattle would be eliminated. Without the need to fence private land inholdings, the feeling of expansiveness of the WSAs would not be impacted.

Primitive and Unconfined Types of Recreation- The presence of these fences would have an adverse visual influence on a primitive recreation setting. The proposed location of the fence, on upland sagebrush and juniper habitat is such that it will not be frequently encountered by the wilderness visitor that typically visits the stream corridor. The removal of an equal amount of nonfunctional fence would enhance the visual influence on a primitive recreation setting in the areas where it is removed. The fences proposed under other alternatives on private land within, adjacent to, and near the WSAs would not be necessary. Livestock, when they are encountered or where indications of their presence are found in a wilderness type of setting, are generally perceived as an intrusion on a primitive recreation experience. The chances of encountering livestock in this alternative are less likely than the previous alternatives.

Day Hiking/Backpacking/Horseback Riding- The quality of hikes or horseback riding would be enhanced through improved ecological conditions, which are the result of the fences (better control of livestock). Improved riparian conditions would improve hiking types of activities in these popular sought-out areas. The proposed fences could hinder foot or horse travel for a wilderness visitor. These structures generally detract from a recreation experience for this user group. However, gates would be located on trails and ways, at all dominant horse trails, at least one every mile, and in all fence corners. Approximately 15 to 20 gates would be expected to be included in this fence. Adverse impacts from the fences which would likely be constructed on private land under other alternatives within, adjacent to, and near the WSAs would not be present.

Camping- The fences or results of these structures are not expected to have an impact on camping. When livestock are present, or indications of their presence are encountered in a camp, it generally detracts from a recreation experience. The chances of this happening are greater during the spring until middle summer period. The alternative removes livestock from the riparian areas of the WSAs during higher summertime recreation use periods. Early season campers in the riparian portions of the WSAs or summertime camping excursions into the drier upland areas of the WSAs would have a greater likelihood of encountering livestock. However pasture rest periods in this alternative eliminate this impact 2 years out of 4.

Fishing/Hunting- Fishing and hunting opportunities would be enhanced by these fences (better control of livestock) through improved ecological conditions. Opportunities for domestic livestock grazing management would result in improvements in fish habitat. Improved riparian vegetation condition and bank stability are expected, resulting in enhanced fish habitat characteristics. Redband trout populations, a special feature found in the WSA, would show improvement.

Fences represent a hinderance to freely access fishing and hunting locations, although they are generally not perceived to significantly degrade this type of recreation activity. It is the physical crossing of the fence(s) that is found to be most undesirable and not the actual presence of the structure. The proposed fence is not located near a stream so would not have any impact to fishers other than as described above. The presence of livestock may detract from hunting and fishing experiences if they interfere with the harvest. In this alternative, these impacts are mitigated because the livestock are out of the fishing area during the peak of the fishing season and out of the WSAs entirely during the time of most hunting seasons.

Wildlife Viewing- The results of the fences are expected to improve wildlife habitat and thus increase the opportunity to observe wild animals in the long term. These opportunities exist primarily on the Catlow Rim and canyons.

Photography and Sightseeing- Where ecological conditions were improved, the quality of taking photographs of naturally occurring ecosystem functions and improved sightseeing opportunities of viewing native plants and animals in their natural environment would be enhanced. Where public or private land fences are encountered, it would detract from the photography and sightseeing opportunities locally.

Conclusion: When considering the original 4 miles of functional fence recorded in the wilderness inventory, the 10.13 miles of fence constructed by court order after the original wilderness inventory occurred, and the 10.9 miles of proposed fence under this alternative this would bring the total fencing in the WSA up to 25.2 miles. It is estimated that with the existing developments, which influence about 2 percent of the WSAs; the other fences that were constructed after the original wilderness inventory occurred; the new fence that is being proposed; and the removal an equal amount of existing fence, that not more than 12 percent of the WSAs would now be visually influenced by the presence of human developments. On the other hand, the 20 to 60+ miles of fence that would likely be constructed under the other alternatives, on private land within, adjacent to, and near the WSAs, would not need to be constructed.

The proposed fences on WSA land are for the purpose of maintaining the integrity of a grazing management system which enhances the overall landscape conditions, reduces impacts to riparian areas and enhances fish habitat conditions and population viability. The results of the proposed fence (better control of livestock) would improve many ecological conditions and, subsequently, enhance naturalness and some attributes of primitive and unconfined types of recreation. There would be localized impacts to naturalness as the addition of these fences would change the natural character of the landscape where the fence has a visual influence. Removal of an equal amount of nonfunctional fence would, however, enhance the natural character in those areas where the fence is removed.

Opportunities for domestic livestock grazing management would result in improvements in fish habitat. Improved riparian vegetation condition and bank stability are expected, resulting in enhanced fish habitat characteristics. Redband trout populations, a special feature found in the WSAs, would show improvement. The proposed fences would maintain and improve the health of the plant communities, allow allotment objectives to be achieved, enhance habitat conditions for sensitive Catlow Valley redband trout and Catlow Valley tui chub, and overall enhance wilderness values.

The Lauserica fence would extend across the WSAs and enhance the vegetative characteristics of naturalness throughout the WSAs. Fishing and hunting opportunities would be enhanced through improved ecological conditions. The fence itself would be an intrusion on a natural landscape where it is encountered, however, it is proposed for construction in a sagebrush and juniper bench area of low use by the wilderness visitor. Although scenic qualities along the fence would be adversely affected; scenic qualities would also be enhanced throughout the WSAs where ecological conditions and vegetative characteristics of naturalness were enhanced. The proposed 3-wire fence largely mitigates hazard to bighorn sheep. The WSAs would not be impacted by the construction of 20 to 60+ miles of fence that would likely be constructed under other alternatives on private land within, adjacent to, and near the WSA under other alternatives.

**Alternative D**

Impacts: Naturalness- There would be an addition of 1-mile of new permanent fence constructed in the WSAs. The addition of this new fence is estimated to influence .5 percent of the WSAs.

An additional 1 to 2 miles of nonfunctional fence would be removed from the WSAs which would reduce the influence of fence by approximately 1 percent of the WSAs' viewshed. There would be impacts to naturalness as the addition of this structure would change the natural character of the landscape where it has a visual influence, however, the removal of an equal amount of nonfunctional fence would enhance the viewshed in the area from which it is removed.

Approximately 25+ miles of new fence is expected to be constructed on private land within, adjacent to, and near the WSAs. There would be impacts to naturalness as the addition of the Stephens extension fence would change the natural character of the landscape. However, it is located near the extreme southern portion of the WSAs. The addition of 25+ miles of fencing that would likely be built on private land would have an additional adverse impact on the WSAs.

Livestock management actions (e.g., reductions in stocking level, increased rest periods, reduced period of use, herding) would improve most ecological conditions over the long term and thus would enhance naturalness and primitive and unconfined types of recreation. Redband trout, a special feature found in the WSAs, would be improved over the long term. However, adjacent private land which influences this secondary value, may not show the improvement because they would not be managed under a cooperative landscape management agreement.

Long-term improvement to riparian vegetation condition is expected on WSA land. There would be short-term impacts until livestock levels are adjusted on public land within the WSAs. Riparian vegetation would continue to improve with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes. Adjacent private land may not exhibit this same improvement, adversely affecting the overall landscape setting of the WSAs.

Solitude- The impacts are the same as described in Alternative C, except there would be less fence constructed on WSA land resulting in less time or exposure to fence construction activities adversely affecting solitude. The impacts on private land within, adjacent to, and near the WSA would exist to a much greater degree. Intensified herding requirements would adversely impact solitude. With as many as 10 additional riders required to herd livestock, solitude for the wilderness visitor to both riparian and upland areas of the WSAs would be adversely impacted. These impacts would occur during the spring and summer seasons, the peak times for wilderness visits. The fencing and segregation of private land inholdings would detract from the expansiveness of the WSAs.

Primitive and Unconfined Types of Recreation- Livestock, when they are encountered or where indications of their presence are found in a wilderness type of setting, are generally perceived as an intrusion on a primitive recreation experience. The chances of encountering livestock are high throughout the spring and summer recreation season.

Day Hiking/Backpacking/Horseback Riding- The quality of hikes or horseback riding would be enhanced within the WSAs through improved ecological conditions, which are, in part, the results of the Stephens extension fence (better control of livestock). Livestock management applications (e.g., reductions in stocking level, increased rest periods, reduced period of use) would also contribute. Improved riparian conditions would improve hiking types of activities in these popular sought-out areas. The proposed fence and those fences proposed on private land within, adjacent to, and near the WSA would also hinder foot or horse travel. Gates would be located on all major horse trails and vehicular ways within the WSAs but not necessarily on the adjacent private land fences. The presence of these structures generally detracts from a recreation experience to this user group.

Camping- The fence or result of it are not expected to have an impact on camping. When livestock are present, or indications of their presence are encountered in a camp, it generally detracts from a recreation experience. Although the chances of this happening are less likely in this alternative due to a potential for fewer livestock; the livestock would be present throughout the camping season. Encounters with riders in the area are also expected to detract from the camping experience.

Fishing/Hunting- Fishing and hunting opportunities would be enhanced through improved ecological conditions as a result of the Stephens fence (better control of livestock) and other livestock management actions. Fishing opportunities may be slow in improving since private land portions of the habitat are not likely to be managed within a cooperative framework of landscape management. The Stephens fence may represent a hindrance to freely access fishing and hunting locations; although a fence in this area is not perceived to significantly degrade this type of recreation activity. The presence of livestock may detract from hunting and fishing experiences if they interfere with the harvest; however, livestock would not be in the area during the time of most hunting seasons.

Wildlife Viewing- Wildlife viewing opportunities would be enhanced where ecological conditions improved their habitat. These opportunities exist primarily on the Catlow Rim and canyons.

Photography and Sightseeing- Where ecological conditions improved, so would sightseeing opportunities and the quality of taking photographs of naturally occurring systems (plants and animals and their interactions between each other in a wilderness type of environment). Where public or private land fences are encountered, they would detract from the photography and sightseeing opportunities locally.

Conclusion: When considering the original 4 miles of functional fence recorded in the wilderness inventory, the 10.13 miles of fence constructed after the original wilderness inventory occurred, and the 1-mile of proposed fence under this alternative this would bring the total fencing in the WSAs up to 15.13 miles. It is estimated that with the existing developments, which influence about 2 percent of the WSAs; the other fences that were constructed after the original wilderness inventory occurred; the new fence that is being proposed; and the removal of an equal amount of nonfunctional fence, not more than 4.6 percent of the WSAs would now be influenced by the presence of human developments. However, the likely addition of 25+ miles of fence on private land within, adjacent to, and near the WSAs would have indirect adverse impacts to many of their wilderness characteristics. Improvement of redband trout habitat would be slower than under Alternatives A or C because more extensive use of the private land, which comprise nearly two-thirds of the landscape, would be expected than under any other alternative except Alternative E.

Improved ecological conditions resulting from the Stephens extension fence, along with other livestock management strategies, would enhance naturalness and most attributes of primitive and unconfined types of recreation. However, some attributes of primitive and unconfined types of recreation would be adversely impacted because of the presence of this fence. Fishing opportunities would be slow improving. The likely addition of 25+ miles of fence on private land within, adjacent to, and near the WSAs would have indirect adverse impacts to the wilderness character of these WSAs. The fences would also have an adverse visual impact to naturalness in their vicinity which would be balanced by removal of an equal amount of existing nonfunctional fence. The fences would change the character of a natural landscape in their vicinity, but enhance ecological and vegetative values throughout the WSAs. There would be fewer livestock encountered than in the previous alternatives examined, but livestock encounters would likely still occur throughout the spring and summer season.

Alternative E

Impacts and Conclusion: All primary and supplemental wilderness values would be enhanced on public land in the short term. However, influence from livestock use on private land and related management actions such as the addition of up to 60+ miles of fence on private land within, adjacent to, and near the WSAs and from uncontrolled management of wild horses would have a direct adverse impact to ecological conditions in the WSAs. Improvement of ecological conditions on public land would enhance naturalness and most attributes of primitive and unconfined types of recreation, but fishing opportunities would be slow in improving. The likely addition of the 60+ miles of private land fencing would have direct adverse impacts to the wilderness character of the WSAs. Management of the public land separate from the intermingled private land would threaten the habitat and long-term viability of the Catlow redband trout.

Summary of Impacts

(Represents a consolidated summary for both WSAs)

Alternatives A, B, D, and E all have significant amounts of fencing that would likely be constructed on private land within, adjacent to, and near the WSAs. Adjacent private land which could adversely influence the secondary values may not show rapid or widespread improvement in ecological conditions. In these alternatives, the land would not be managed under a cooperative landscape management agreement and would adversely affect the overall landscape setting of the WSAs. Alternatives A, C, and D, which include various fencing proposals on public land, would have at least an equal amount of existing nonfunctional fence removed.

Alternatives B and E have no developments proposed on public land but high levels of fencing would be expected on private land within, adjacent to, and near the WSA. Improvement to ecological conditions would be slow in occurring. Present wilderness values are expected to generally be maintained or enhanced, although in both alternatives expected actions on adjacent private land to manage livestock could have an indirect adverse influence on supplemental wilderness values if ecological conditions deteriorate. Alternative D has some fencing proposed, but also relies on other livestock management techniques (herding, reductions in stocking level, increased rest periods, or reduced periods of use) to achieve improved ecological conditions. Where ecological conditions are improved, naturalness and some attributes of primitive and unconfined types of recreation are enhanced. The fence (Stephens extension fence in the Home Creek WSA) would also have adverse impacts to naturalness as a development found in a natural landscape.

There are adverse impacts to naturalness, and to some attributes of primitive and unconfined types of recreation caused from the presence of these fences in a natural landscape. Alternatives A and C include more new fence on WSA land than the other alternatives but adversely affected values would not be degraded so far as to constrain future wilderness recommendations. The results of these new fences on public land would result in a net improvement of most ecological conditions, enhancing naturalness, fish habitat and some attributes of primitive and unconfined types of recreation. Alternatives A and C also require less fencing on private land within, adjacent to, and near the WSAs. In fact, under Alternative C, no additional private fencing is expected. The WSAs and adjacent and interspersed private land would be managed through cooperative landscape management. The proposed fences in Alternative C enhance the BLM's ability to manage the land in a manner so as not to impair their suitability for preservation as wilderness.

While the presence of most fences in WSAs cause the natural character of the landscape in the vicinity of the fence to be changed or altered, the degree of those adverse impacts, because of the amount of fencing proposed, are overall the greatest in Alternatives A and C on WSA land. However impacts from fence construction can be reclaimed to a condition of being substantially unnoticeable in the WSAs as a whole.

No fencing on WSA land is proposed in Alternatives B and E. Likewise, the greatest amount of fence removal is proposed for Alternatives A and C with the least amount in Alternatives B and E. Improvement of ecological conditions of WSA land, which would mostly enhance naturalness, are better pronounced in Alternatives C and D, although the impacts on the private land are greater in D. Changes in scenic qualities, influencing mainly naturalness, are most evident in Alternatives A and C for the Home Creek WSA (scenic qualities are a special feature of this WSA). However the landscape scale impacts are greater under Alternatives A, B, D, and E due to the high levels of fencing that would be expected on private land within, adjacent to, and near the WSAs and the lack of a landscape management agreement.

The longer the fence, the more construction involved and thus the greater chances for short-term impacts on solitude. Typically the fence construction would be done by hand by a crew of two to three people. On WSA land, this impact on solitude is greater in Alternatives A and C and to a lesser degree in D. Under Alternatives A, C, and D, the fence construction on public land would take one month or less. None would occur in Alternatives B and E on WSA land. No wilderness value in the WSAs would be degraded or adversely affected in any meaningful way by actual construction of a fence on public land. However, under Alternatives A, B, D, and E, high levels of fencing would be expected on private land within, adjacent to, and near the WSAs which would also impact solitude and the feeling of large expanses in the WSAs.

The influences of human developments to the two WSAs would be increased from the placement of additional fencing. Alternatives A and C have the greatest potential to cause an influence to WSAs as these are the alternatives with the most fences proposed within the WSAs. However, when considering anticipated fencing on the private land, within, adjacent to, and near the WSAs, Alternative C has the least amount of fencing on the landscape setting of the WSAs. Location and construction criteria for fences on public land are designed to ensure that the activity will not jeopardize or negatively affect Congress' ability to find the WSAs have the necessary wilderness characteristics. Fence construction and nonfunctional fence removal would result in no net increase in fencing in the WSAs.

The proposed fences in Alternative C provide the minimum necessary facilities for public enjoyment of the wilderness values and for protection or enhancement of the land's overall wilderness character on a landscape basis. Mitigating measures such as the removal of an equal amount of nonfunctional fence from the WSAs, placement of fences in areas not frequented by the wilderness visitor, and use of fencing standards allowing wildlife passage have been included. These measures would enable the BLM to use the project and cooperative grazing management strategies to protect the land's wilderness and ecological values without creating noticeable degradation of natural character to the WSAs other than the localized impacts near the fences. Mitigation measures for fences proposed under Alternatives A, C, and D on public land are the same. These measures cannot be required on the private land fences which are expected to be constructed on the private land within, adjacent to, and near the WSAs in Alternatives A, B, D, and E.

In order for the BLM to manage in a way that best protects WSA values, the alternatives would be considered in a landscape context. Because of the very high percentage of private land within the landscape, the best alternative would be one which incorporates both private and public lands in a coordinated management strategy to protect overall landscape ecological values. Alternatives B and E result in the greatest amount of fencing on the landscape, although the least in the WSAs, and the greatest amount of segregation of private and public lands for management. While the direct impacts to the WSAs may be less in these alternatives, the indirect impacts to wilderness values from the segregation of the private land, from the landscape within which the WSAs exist, would be the greatest. Alternative A is intermediate in the amount of segregation of private land and indirect impacts on wilderness values. Alternative C has the least amount of new fence on the landscape (both public and private), the most amount of fence constructed and removed from the WSAs, and the greatest integration of public and private lands into an integrated land management strategy to protect the values of the WSAs and landscape within which they exist.

Wildlife

Detailed impacts are described for public land only. Approximately two-thirds of the landscape is privately owned and one third public land. Much of the habitat area for these species exists also on the large amount of private land in the area.

Alternative A

Impacts: Of the Special Status species there could be impacts on California bighorn sheep, northern goshawk, Swainson's hawk, ferruginous hawk, sage grouse, bobolink, Preble's shrew, and spotted frog. This alternative would likely include 20+ miles of fencing on the private-public land boundaries within the habitat areas. The entire landscape could not be managed in a full cooperative partnership. Impacts identified and associated with fences on the BLM land would typically exist at the private fences in the habitat area. Habitat conditions on the private land may deteriorate.

The Home Creek protection fence could allow improved riparian management along 15.2 miles of stream. As desirable rushes, sedges, and riparian woody species increase, wildlife species use would increase including improved species richness. Many songbirds and small mammals would be favored by increased willow and alder cover and increased ground cover. The spotted frog may be adversely affected by grazing in riparian zones (Munger, et al., 1994), but impacts have not been well defined. Probably the presence of residual cover in riparian zones on low gradient reaches of stream would favor spotted frogs. Similarly, increased cover would benefit Preble's shrew.

Grazing use into the warm, dry season would allow relatively little regrowth of herbaceous riparian species and use on woody riparian species could be heavy during July or later. Nonuse would favor considerable herbaceous cover development during the rest years.

Bobolinks, a bird using meadows, could be favored by improved riparian condition and moderate livestock use, but, due to the small size of meadows, little of this area is suitable bobolink habitat.

Northern goshawk, Swainson's hawk, and ferruginous hawk would be favored by additional prey that may result from increased upland and riparian cover. Adequate herbaceous cover would be left on uplands for ground nesting birds, such as sage grouse, at most stocking levels. At upper stocking levels the grazing of uplands could affect some ground nesting species by reducing cover during use years. During nonuse years, considerable residual cover would be present for wildlife use.

California bighorn sheep are primarily found within 1-mile of Catlow Rim. There is limited water along this rim and livestock use is mostly near where Home Creek, Dry Creek, and Threemile Creek cut through the Catlow Rim. Little competition for forage with livestock would occur on bighorn range.

The Home Creek protection fence could have adverse impacts on bighorn sheep where it would be constructed within 1-mile of Catlow Rim. Bighorns, particularly rams, may be entangled in fences. Bighorns move along the rim and fences may impede flight to the rim when threatened by predators. Fences would be constructed according to BLM specifications which would be 3-strand barbed wire within 1-mile of the rim to reduce impacts on bighorns and 4-strand barbed wire beyond that which would be a slight hazard to mule deer and sage grouse. An equal amount of existing nonfunctional fence would be removed. Sage grouse may collide with new fences causing mortality (Call and Maser, 1985). It would have little impact on antelope as they would pass under the fence. Elk would be little affected as most of this area is not elk habitat. The eastern mile of the Home Creek protection fence has light use by elk and chances of entanglement are slight.

Conclusion: Riparian vegetation would continue to improve with an increase in desirable woody species and desirable herbaceous hydric species of sedges and rushes. Although the general trend in riparian and rangeland condition would be upward, some areas would respond more quickly than others. Movement toward wildlife habitat objectives is expected, but at a slower and possibly delayed rate compared to Alternatives C and D, because of the difference in domestic livestock grazing management. Attainment of the objectives is expected to be faster than under Alternative B because of the mitigation of the negative effects on the lower reaches of Home and Threemile Creeks expected from the construction of the Blitzen protection fence. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective than Alternative E. These results would occur because of a more cooperative watershed-level management, a proactive approach to vegetation restoration and management of domestic livestock that allows achievement of the objective. Nonetheless, the addition of 20+ miles of private fencing and the use of private land for grazing independent of an integrated public and private landscape management plan would likely result in slower improvements on the private land. Mitigation for adverse impacts of fence construction on wildlife species would be included on fences constructed on public land. No such measures are required for the fences constructed on private land.

Alternative B

Impacts: This alternative would likely include 30+ miles of fencing on the private-public land boundaries within the habitat areas. The entire landscape could not be managed in a full cooperative partnership. Impacts identified and associated with fences on the BLM-managed land would typically exist at the private fences in the habitat area. Habitat conditions on the private land may deteriorate.

Wildlife impacts described in Alternative A would occur but, due to the reliance on riders to keep cattle off riparian areas, this alternative is less likely to improve wildlife habitat. Use in late season would require extensive riding to keep cattle off streams and the recovery of riparian habitat is expected to be slower. Utilization levels along streams would probably reach target levels before target levels are approached on uplands. Use on uplands in July would allow little regrowth of upland grasses that occur in the warmer and lower elevations of the pasture. This would limit herbaceous cover used by many wildlife species and would be less favorable to wildlife than Alternative A. Impacts on Special Status species would also be similar to Alternative A, but at a slower rate and less opportunity for improvement.

No additional obstructions to wildlife would occur due to fencing on public land. Private land fencing impacts would be as described in Alternative A.

Conclusion: Movement toward wildlife habitat objectives is expected to be slower than Alternatives A, C, and D, because of the difference in domestic livestock grazing management. This alternative relies primarily on livestock herding to mitigate the negative effects of livestock and wild horse concentrating on the lower reaches of Home Creek and the upper reaches of Threemile Creek, expected as a result of the Blitzen protection fence. The increased reliance on herding would aid in, but not assure, achievement of objectives. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective. However, the addition of 30+ miles of private fencing, and the use of private land for grazing independent of an integrated public and private landscape management plan, woud likely result in slower improvements on the private land. Mitigation of adverse impacts of fence construction on wildlife species are not required for the fences constructed on private land.

Alternative C

Impacts: No new fences on private land are anticipated. The entire landscape would be managed in a full cooperative partnership. Habitat conditions on private land are expected to improve as a result of the cooperative landscape management strategy.

The opportunity for improvement of riparian habitat would be better than in Alternatives A and B since control of cattle would be easier, there would be no late season use near stream riparian areas, and some regrowth would occur following cattle removal during the grazed years. Also, the earlier removal of cattle would favor the maintenance of vigor of many upland grasses and at upper elevations regrowth. During nonuse years, considerable herbaceous cover would enhance the habitat of many wildlife species. Beneficial impacts on wildlife, including Special Status species, would be accelerated over Alternatives A and B due to a more rapid improvement in riparian habitat and more residual cover on uplands.

Impacts from fencing on bighorn sheep, mule deer, antelope, and sage grouse would be similar to those described in Alternative A, since the Lauserica fence and the Stephens extension fence would also impact wildlife along additional parts of Catlow Rim. Elk could be slightly affected along the eastern 2 miles of Lauserica fence where some elk use occurs.

Conclusion: Achievement of riparian and upland habitat objectives is expected on both private and public lands. Movement toward achievement of riparian and upland objectives is expected but at a faster rate than in Alternatives A, B, and D because of the difference in domestic livestock grazing management. This alternative would be slower in short-term improvements than Alternative E, but in the long term it would more fully achieve the objective on the landscape. These results would occur because of cooperative watershed-level management on land that includes a large percentage of private ownership with the public land, a proactive approach to vegetation restoration, and landscape scale management of domestic livestock that does not segregate the private from public land. No new private land boundary fencing is anticipated. Mitigation for adverse impacts of fence construction on wildlife species would be included on fences constructed on public land.

Alternative D

Impacts: This alternative would likely include 25+ miles of fencing on the private-public land boundaries within the habitat areas. Habitat conditions on the private land may deteriorate because the entire landscape could not be managed in a full cooperative partnership. Impacts identified and associated with fences on the public land would typically also exist at the private fences in the habitat area. Active herding would be required and the wildlife and habitat disturbance associated with this activity would be similar to that described in Alternative B.

This alternative would provide rapid recovery of the riparian areas used by wildlife on public land in Threemile Creek. Removal of livestock early would allow considerable regrowth of the riparian areas thereby improving wildlife habitat. Removal of cattle and wild horses from the Stephens Pasture during the early season would ensure excellent control on herbaceous use along Threemile Creek.

Impacts of fence construction on wildlife would be similar to that previously discussed under Alternative A.

Conclusion: Movement toward wildlife habitat objectives is expected to be slower than Alternatives A, and C, but faster than B because of the difference in domestic livestock grazing management. Other than an increased reliance on livestock herding, this alternative lacks mitigation of the negative effects of livestock and wild horses concentrating on the lower reaches of Home Creek, expected as a result of the Blitzen protection fence. The construction of the Stephens protection fence improves grazing management in the upper reaches of Threemile Creek. The increased reliance on herding will aid in, but does not assure, achievement of objectives. This alternative would be slower in short-term improvements than Alternative E, but in the long term it will more fully achieve the objective. However, the addition of 25+ miles of private fencing, and the use of private land for grazing independent of an integrated public and private landscape management plan, would likely result in slower improvements on the private land. Mitigation for adverse impacts of fence construction on wildlife species would be included on fences constructed on public land. No such measures are required for the fences constructed on private land.

Alternative E

Impacts: This alternative would likely include 60+ miles of fencing on the private-public land boundaries within the habitat areas. The entire landscape could not be managed in a full cooperative partnership. Impacts identified and associated with fences on the BLM land would typically exist at the private fences in the habitat area. No impacts on wildlife due to fencing would occur on BLM-managed land. Habitat conditions on the private land may deteriorate.

Initially, considerable residual riparian and upland cover would result which would be used by wildlife. As horse numbers increase, additional use on the herbaceous cover along streams would occur, decreasing cover available to wildlife. This would be most pronounced in the Home Creek Butte area, an area favored by wild horses. This would be an adverse impact on spotted frog and Preble's shrew using riparian areas. A large buildup in wild horses would affect wildlife using uplands as herbaceous cover is decreased and species composition changes to less palatable grasses. This would be adverse for sage grouse and many other species that use sagebrush and herbaceous cover for nesting. This could also cause an increase in mountain big sagebrush and Wyoming big sagebrush, providing cover and forage for other species of wildlife.

Heavy horse use in the upper elevations of the Steens Pasture could cause some forage competition between elk and horses. However, elk use is generally light in this area and areas within the allotment without significant horse use would be available for elk. There would be little effect on deer and antelope due to different food habits than horses. Heavy wild horse use near Catlow Rim could have the potential for forage competition with bighorns. Both species utilize grasses extensively during part of the year. Usually these animals use different habitats over most of their range.

Conclusion: The wildlife habitat objectives are supported on public land by the management actions, but may not occur on private land because a coordinated landscape approach to management would not be implemented. Without the watershed-level management for domestic livestock, overall improvement of the upland and riparian habitat in Home Creek, Threemile Creek, and Skull Creek drainages may not occur. Achievement of wildlife habitat objectives on public land would be threatened by potential large increases in wild horse numbers. Improvements in vegetative conditions expected from removal of domestic livestock may be minimal. Mitigation of adverse impacts of fence construction on wildlife species are not required for the fences constructed on private land.

Summary of Impacts

All alternatives support the wildlife habitat objectives at least on public land. Alternatives A, B, C, and D would allow progress toward these objectives but Alternative C provides the best opportunity for achieving the objectives throughout the landscape. Alternatives B and D do not mitigate for the shift in domestic livestock use expected from the construction of the Blitzen protection fence other than through livestock herding. In such a large area, with rough terrain, herding efforts are not expected to be practical or have adequate success in achieving objectives. Adaptive grazing management strategies under Alternative D would allow improvements to habitat conditions on public land but these may be delayed in some locations. With one less pasture and less flexibility to provide rest to public and private pastures, the overall habitat improvements may be slower. Achievement of wildlife habitat objectives on public land in Alternative E would be threatened by potential large increases in wild horse numbers. Improvements in vegetative conditions expected from removal of domestic livestock may be minimal.

Appendix U
Potential Recreation Sites, Trails, and Improvements of Existing Sites

Opportunities that could enhance recreational opportunities or protect resources from recreation-related activities have been identified through existing planning decisions, visitor data collection, and inventories. In support of these opportunities, the following is a list of potential new recreation sites and trails, and improvements of existing sites within each Resource Area. This list is not intended to be inclusive of sites and possible improvements. Prior to establishment, sites and improvements would be reviewed by an interdisciplinary team to ensure compliance with management objectives.

Site	Location	Affected Alternative	Potential Improvements[1]
Jordan Resource Area			
Wes Hawkins Trailhead	T34S, R45E, Sec 22	A,C,D,E	Trailhead for hiking into Owyhee Canyon.
Deary Pasture Trailhead	T33S, R44E, Sec 34	A,C,D,E	Trailhead for hiking into Owyhee Canyon.
Parks Dam Trailhead	T29S, R44E, Sec 4	A,C	Trailhead for hiking around lakes and over lava flow.
Cow Lakes	T28S, R44E, Sec 27, 28	A,C,D	Improve camping sites and boat ramp; enhance waterfowl habitat and viewing opportunities, incorporate Watchable Wildlife program; add interpretation.
McDermitt Caldera Campground	T41S, R40E	A	Day and overnight site at south end of Trout Creek-Oregon Canyon SRMA.
Antelope Reservoir	T30S, R45E, Sec 32 T31S, R45E, Sec 5,6, 7,18	A,B,C,D	Develop trail system; incorporate Watchable Wildlife program; add interpretation.
Rome	T31S, R42E, Sec 30	A,B,C,D,E	Improve campground; develop permanent ranger station; improve interpretation.
Highway 95 Interpretive Site	T30S, R44E, Sec 36	A	Install toilet and picnic facilities for day use only. Improve Taylor Grazing interpretive sign.

Site	Location	Affected Alternative	Potential Improvements[1]
Owyhee Spring	T32S, R42E, Sec 6	A,C	Improve for day and overnight use; add interpretation.
Malheur Resource Area			
Horseshoe Bend	T21, R38E, Sec 3,10	A,C,D	River setting for day and overnight use along U.S. Hwy 20.
Coyne Place	T20S, R40E, Sec 33 T21S, R40E, Sec 4	A	River setting for day and overnight use along U.S. Hwy 20.
Big Bend	T21S, R46E, Sec 27	A	Snake River boat access, day use.
Hunter Spring	T18S, R37E, Sec 15	A,B,C,D	Day/overnight site with trailhead for Castle Rock.
Riverside	T23S, R37E, Sec 22	A,B,C,D	Day/overnight site with trailhead and boat access.
Snake River	T18S, R47E, Sec 27	A,C,D	Boat access, day use. Watchable Wildlife interpretation.
Desert Trail	(see description)	A,B,C,D	Corridor point-to-point trail between Route 78 and near Stinkingwater Pass, with trailheads.
Malheur River Trail	(see description)	A,C	Nonmotorized trail along abandoned railroad grade on Malheur River between Riverside, Oregon and near Juntura, Oregon with trailheads.
Owyhee Breaks Trail	(see description)	A,C,D	Nonmotorized point-to-point trail between Owyhee Reservoir State Park and Birch Creek Historic Ranch.
Lower Owyhee Trail	(see description)	A,C,D	Developed trail along Owyhee River below the Dam between LowerOwyhee Canyon Watchable Wildlife site and BOR Government Camp (varying length by alternative).
Castle Rock Trail	(see description)	A,C	Developed trail from Castle Rock and Hunter Spring Recreation Sites, to include Castle Rock.
Lower Owyhee Canyon	(undetermined)	A,C	Day/overnight use site on Owyhee River below the Dam.
Twin Springs	T22S, R43E, Sec 35	A,B,C,D	Enlarge existing site, provide for day/ overnight facilities, improve water system, reroute road.

Site	Location	Affected Alternative	Potential Improvements[1]
Chukar Park	T20S, R37E, Sec 27	A,B,C,D	Improve site for host and group camping, water systems, sanitation facility, day/overnight facilities.
Oasis	T15S, R46E, Sec 18	A,B,C,D	Improve site with boat ramp/dock, expanded parking, picnic units, Watchable Wildlife interpretation.
Snively Hot Springs	T21S, R45E, Sec 22	A,B,C,D	Improve site's day/overnight facilities, water system, parking, interpretation, exclosure, and trailhead.
Lower Owyhee River Watchable Wildlife Corridor	T21S, R45E, Sec 14	A,B,C,D	Enhance area with additional interpretation, exclosure, and trailhead, satellite interpretive/viewing points.
Castle Rock	T17S, R37E, Sec 28	A,B,C,D	Improve site with exclosure, day/overnight facilities, trailhead.
Slocum Creek/ Leslie Gulch	Leslie Gulch ACEC	A,B,C,D	Per approved Leslie Gulch ACEC plan: Improve with day/overnight facilities, satellite trailheads/parking, interpretation.
Alkali Springs-Oregon Trail	T17S, R45E, Sec 5	A,B,C,D,E	Improve parking.
Birch Creek–Oregon Trail	T15S, R45E, Sec 9	A,B,C,D,E	Improve parking.
Keeney Pass-Oregon Trail	T19S, R45E, Sec 23	A,B,C,D,E	Improve parking.
Andrews Resource Area			
Lily Lake	T33S, R32'E, Sec 1	A,C,D	Interpretation site, day-use area with facilities.
Frog Springs	T35S, R34E, Sec 8	A,C,D	Semiprimitive camping facilities constructed. Development occurs because resource protection is necessary (3 acres).
Mann Lake	T32S, R35E, Sec 7	A,B,C,D	Presently a semiprimitive campground and interpretive site. Area would be converted to a regular campground with designated sites and other facilities.
Steens Mountain Escarpment	T33S, R35E, Sec 18	A,C,D	Scenic vista of the high Steens Mountain escarpment and interpretive site (< 1-acre).

Site	Location	Affected Alternative	Potential Improvement[1]
Catlow Valley North	T33S, R32S, Sec 18	A,C,D	Scenic vista of Catlow Valley and rim. Interpretive site of the ancient lake and area's cultural history (< 1-acre).
Catlow Valley South	T37S, R32'E, Sec 4	A	Scenic vista of Catlow Valley and rim. Interpretive site of the ancient lake and area's cultural history (< 1-acre).
Frenchglen Information Center	T32S, R32E, Sec 2	A,B,C,D	Would be an expanded version of a kiosk with facilities (type and size of development varies with alternative). Facility could be an interagency Federal, State, and community effort.
Mogul Mine	T37S, R32¼E, Sec 26	A	Past mining interpretive site (40 acres).
Pauite Agate	T36S, R34E, Sec 26	A	Rock collecting area (158 acres).
Trout Creek	T39S, R37E, Sec 10 T40S, R36E, Sec 5	A	Designate a National back country byway along the existing Trout Creek Mountains public access route; a Type III 4-wheel drive byway (38 miles).
Fir Grove	T32S, R32¼E, Sec 29	A,C,D	Hiking trail beginning at North Steens Loop Road , 7 miles east from Page Springs Campground. Hike is to a grove of white fir, which is uncommon in the arid high desert (4 miles).
P Hill	T32S, R32E, Sec 3	A	Overlook/interpretive site viewing west Steens Mountain above Frenchglen (< 1-acre).
Riddle Brothers Ranch Historic District	T33S, R32 3/4 E, Sec 30,31	A,B,C,D	Interpretive signs, brochure, and access trail.
Fields Information Station	T38S, R34E, Sec 24	A,B,C,D	Improve site with kiosk, tables, and signs. Establish agreements with Fields and ODOT.

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[1] Level of development/improvement usually varies with alternative.

Appendix V

Rationale Supporting the Possible Changes in Wild and Scenic River ORV Conditions Found in Table 4-3

River	Alternative	Rationale for condition change
Malheur Resource Area		
Cottonwood, M-1	A-D	Fish value would be protected by riparian management and by WSA status because IMP provides protection of natural values and limits activities which could adversely affect this special feature of the WSA.
	E	Fish benefit by elimination of livestock grazing and associated impacts on fishery habitat.
Black Canyon, M-6	A, C, D	Botanic value would benefit from ACEC management prescriptions.
	B	Botanic values are protected under current management.
	E	Botanic values could benefit from elimination of livestock grazing and associated impacts.
SF Indian, M-8	A, B, E	Scenic values are protected by management prescriptions.
	C,D	An increase in the protection of the Scenic value could occur by the change to VRM Class II.
Canyon, M-9	A	Fish values could be adversely impacted in the short term by any increases in livestock grazing.
	B	Fish values could be adversely impacted in the short term by existing livestock grazing outside of the exclosure.
	C, D	Increased emphasis on implementation of riparian management would help to protect the fish value.
	E	Fish benefit by elimination of livestock grazing and associated impacts on fishery habitat.
Malheur, M-12	A	Recreation values could be adversely impacted in the short term by any increases in livestock grazing. Wildlife values would be maintained under current management prescriptions.
	B	Recreation and wildlife values would be maintained under current management prescriptions.
	C, D	Increased emphasis on implementation of riparian management would protect the recreation value. Wildlife values would be maintained under management prescriptions.
	E	Recreation and wildlife values could benefit by elimination of livestock grazing and associated impacts.
SF Carter, M-14	A-E	Protection of fish values would be maintained by meeting existing riparian management objectives.
Dry, M-15	A, B	ORVs outside of the WSA could be subject to adverse impacts from activities associated with mining and from site specific increases in livestock grazing until appropriate management is implemented. ORVs within the WSA portion of the stream segment would be protected by IMP which precludes most surface disturbing activities.
	C, D, E	ORVs would be protected and enhanced under ACEC management prescriptions.
Owyhee, M-16	A	Scenic values could be adversely affected by realty actions (utility corridor developments), and in the short term, by any new surface-disturbing activities associated with mining. Fish values could be adversely impacted by increased angling in short term until appropriate management is implemented. The other ORVs would receive negligible impacts.

River	Alternative	Rationale for condition change
	B	Scenic values could be adversely affected by realty actions (utility corridor developments), and in the short term, by any new surface-disturbing activities associated with mining. The other ORVs would receive negligible impacts.
	C, D	Scenic, recreation, wildlife, and botanic values would be protected and enhanced by ACEC and/or SRMA management prescriptions. The other ORVs would receive negligible impacts.
	E	Scenic, wildlife, and botanic values would be protected and enhanced by ACEC management prescriptions. The other ORVs would receive negligible impacts.
NF Malheur, M-17	A, C, D	Scenic, fish and wildlife values would be protected and enhanced by ACEC management prescriptions. Recreation value would be maintained.
	B	Scenic, recreation, fish, and wildlife values would be protected under current management.
	E	Scenic, fish and wildlife values would be enhanced by eliminating livestock grazing. Recreation values would be maintained.
Jordan Resource Area		
Whitehorse, J-1	A, B, C	Scenic value would be protected by WSA status which eliminates most surface disturbing activities. Threatened and endangered (T & E) fish value would be protected by ESA, and existing riparian management.
	D	An increase in the protection of the scenic value would occur by the change to VRM Class I. T & E fish value would be protected by ESA, and existing riparian management.
	E	An increase in the protection of the scenic value would occur by the change to VRM Class I. T & E fish value would be protected by ESA.
Doolittle, J-2	A–E	Across all alternatives the T & E fish value would be protected by ESA and existing riparian management, and there would be no or negligible effects to the prehistoric cultural value.
Little Whitehorse, J-4	A–E	Across all alternatives the T & E fish value would be protected by ESA, and existing riparian management.
Cottonwood, J-5	A–E	Across all alternatives the T & E fish value would be protected by ESA, and existing riparian management.
Willow, J-6	A, C, D	The recreation, prehistoric, historic, and botanic values would be benefit from the proposed SRMA, OHV use limitations, and VRM Class II. T & E fish value would be protected by ESA, and existing riparian management.
	B	T & E fish value would be protected by ESA, and existing riparian management.
	E	Fish, cultural, botanic, and recreation values could be adversely impacted by unmanaged recreation and wild horse use.
McDermitt, J-7	A, B, C	All of the corridor would be VRM Class II which would help protect the scenic value.
	D	An increase in the protection of the scenic value could occur by the change to VRM Class I of the WSA portion of the corridor. The remainder of the corridor would be VRM class II.
	E	An increase in the protection of the scenic value could occur by the change to VRM Class I of the WSA portion of the corridor. The remainder of the corridor would not be classified.

River	Alternative	Rationale for condition change
NF McDermitt, J-8	A, B, C	No change. All of the corridor would be VRM Class II which would help protect the scenic value.
	D	An increase in the protection of the scenic value could occur by the change to VRM Class I.
	E	An increase in the protection of the scenic value could occur by the change to VRM Class I.
Sage, J-9	A-E	Across all alternatives the T & E fish value would be protected by ESA, and existing riparian management.
Antelope, J-10	A-E	Across all alternatives the T & E fish value would be protected by ESA, and existing riparian management.
Indian, J-14	A-E	Across all alternatives the T & E fish value would be protected by ESA, and existing riparian management.
Oregon Canyon, J-15	A, C	Scenic value would be protected by WSA status which eliminates most surface disturbing activities. Recreation value would benefit from the proposed SRMA.
	B	Scenic value would be protected by WSA status which eliminates most surface disturbing activities.
	D	An increase in the protection of the scenic value would occur by the change to VRM Class I. Recreation value would benefit from the proposed SRMA.
	E	An increase in the protection of the scenic value would occur by the change to VRM Class I.
Rattlesnake, J-17	A	Recreation value may benefit from proposed bighorn sheep management (i.e., increased releases may lead to more hunting opportunities). The recreation value could be adversely impacted by any increase in livestock grazing.
	B	No change.
	C, D, E	Recreation value would benefit from proposed bighorn sheep management (i.e., increased releases may lead to more hunting opportunities).
Antelope, J-19	A, C	Scenic value would be protected by WSA status which eliminates most surface disturbing activities. Recreation value would benefit from proposed bighorn sheep management (i.e., increased releases may lead to more hunting opportunities).
	B	Scenic value would be protected by WSA status which eliminates most surface disturbing activities.
	D, E	An increase in the protection of the scenic value would occur by the change to VRM Class I. Recreation value would benefit from proposed bighorn sheep management (i.e., increased releases may lead to more hunting opportunities).
Andrews Resource Area		
Big Alvord, A-1	A-D	Botanic and wildlife values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions. This would be enhanced by adhering to the provisions set forth in the terms and conditions of the grazing permit which are consistent with the Section 7 biological opinion for Lahontan cutthroat trout. Grazing only occurs in the lowest segment of the stream.

River	Alternative	Rationale for condition change
	E	Botanic and wildlife values would benefit by elimination of livestock grazing and associated impacts.
Home, A-6	A–D	Fish, scenic, and primitive recreation values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. The upper reach of stream would be improved and protected through the application of sound grazing management principles. This would be enhanced by adhering to the provisions in the conservation agreement with the USFWS for protection of the Catlow Valley redband trout and Catlow tui chub.
	E	Fish values benefit by elimination of livestock grazing and associated impacts on fishery habitat.
Kiger, A-8	A–D	Scenic, fish habitat, and wildlife habitat values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions.
	C	Through current policy for riparian management, the upper and lower reaches of Kiger would be protected through the application of sound grazing management practices for this area.
	E	Fish and wildlife habitat will benefit by elimination of livestock grazing and associated impacts.
McCoy, A-13	A–D	Fish and wildlife habitat values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs.
	C	Through current policy for riparian management, the upper and lower reaches of McCoy Creek would be protected through the application of sound grazing management practices for this area.
	E	Fish and wildlife habitat will benefit by elimination of livestock grazing and associated impacts.
Mud, A-14	A–E	The botanic values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. The stream is excluded from grazing.
Pike, A-15	A–D	Wildlife habitat values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions. The lower reach of stream would be improved and protected through the application of sound grazing management principles. This would be enhanced by adhering to the provisions set forth in the terms and conditions of the grazing permit which are consistent with the Section 7 Biological Opinion for Lahontan cutthroat trout. Grazing only occurs in the lowest segment of the stream.
	E	Wildlife habitat will benefit by elimination of livestock grazing and associated impacts.
Threemile, A-19	A–D	Fish habitat and cultural resource values would be protected by WSA status providing protection of natural values and limiting activities which could have the potential to adversely affect these ORVs.

River	Alternative	Rationale for condition change
		The upper reach of stream would be improved and protected through the application of sound grazing management principles. This would be enhanced by adhering to the provisions in the conservation agreement with the USFWS for protection of the Catlow Valley redband trout and Catlow tui chub.
Wildhorse, A-20	A–E	Scenic, primitive recreation opportunities, wildlife habitat, and botanical resource values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions. There is no livestock grazing authorized within the canyon.
Willow, A-21	A–D	Botanical resource values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions. Botanical values on the entire stream would be improved and protected through the existing riparian policy, through the application of sound grazing management principles. This would be enhanced by adhering to the provisions set forth in the Terms and Conditions of the grazing permit which are consistent with the Section 7 Biological Opinion for Lahontan cutthroat trout. Grazing only occurs on the lowest segment of the stream.
	E	Botanical values will benefit by elimination of livestock and associated impacts.
Van Horn, A-27	A–D	The primitive recreational values would be protected by WSA status providingprotection of natural values and limiting activities, which could potentially adversely affect these special features of the WSA. The entire stream would be protected through the existing riparian policy through the application of sound grazing management principles. This would be enhanced by adhering to the provisions set forth in the terms and conditions of the grazing permit which are consistent with the Section 7 Biological Opinion for Lahontan cutthroat trout. Grazing only occurs on the lowest segment of the stream.
	E	Recreation values would benefit by elimination of livestock grazing and associated impacts.
Little Cottonwood, A-25	A–E	Botanical resource values would be protected by WSA status providing protection of natural values and limiting activities, which could have the potential to adversely affect these ORVs. These values would also be protected and enhanced by ACEC management prescriptions. Botanical values on the entire stream would be protected under existing riparian policy, through the application of sound grazing management principles. Grazing only occurs on the lowest segment of the stream.
	E	Botanical values would benefit by elimination of livestock grazing and associated impacts.

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